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PLATO'S LATER DIALECTIC

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The dialectic of collection and division occupies a large and central position in the later dialogues of Plato. There can be little doubt that Plato considered this new method of defining as radically new and important since he patiently devotes lengthy sections of the *Sophist*, *Politicus*, and *Philebus* to the exemplification of the methodology underlying division. In spite of this obvious emphasis and the eminent position of this new dialectic in the later dialogues, Platonic scholars are by no means of one mind regarding its interpretation and philosophical significance in the dialogues.

Various Interpretations

Any complete review of the literature on the topic is a subject for a much more pretentious work than this paper, but a brief survey of some of the modern Platonic critics does not seem out of place and will perhaps help to bring the problem of the later dialectic into focus. Certainly the least flattering of the commentators on the method of division are those who see it as a boring exercise in logic that Plato emphasized because of its novelty for him, though for the modern logician it cannot be more than childish. Such seems to be the view taken by Julius Stenzel in his essays on the Platonic dialectic.[1] Stenzel realizes that division is a matter of great significance in Plato's later thought and goes so far as to claim that Socrates did not discover the definition in order to allow some claim to originality for the method of division. Stenzel sees that division and nonbeing present real innovation in Platonic thought, but he does not see that this is any more than the evolution of the "concept" and the logical mode of defining through

differences until an ultimate "atomic form" is reached.[2] A. E. Taylor, on the other hand, implies that there is little difference between Plato's method of division and Aristotelian definition through genus and specific difference.[3] This overlooks the radical differences between the

[1]*Plato's Method of Dialectic* (Oxford, 1940) pp. 121-22.

[2]*Ibid.*, pp. 86-95.

[3]"The Aristotelian rule of definition by 'genus and difference, or differences' is simply the condensation of this Academic method into a formula . . ." (*Plato: The Man and His Work* [London, 1929], p. 377).

[4]"We must also be careful not to make the mistake of taking the proposed definition of 'being' as 'force' for one seriously intended by Plato. It is given simply as one which the materialist could be led to concede if he were willing to reflect, and we are warned that, on further consideration, we might think better of it. The point is simply that the materialist who uses the notion of a 'force' has already surrendered his materialism" (*ibid.*, pp. 384-85).

F. M. Cornford also rejects Plato's words as a definition of being. "Plato has certainly not committed himself here to a 'definition of being'. So much could be discovered from an accurate translation; but the word 'power' still needs to be explained. It has been rendered by 'potency', 'force', '*Möglichkeit*', '*puissance de relation*'. Without some account of the history of the word *dynamis* in Plato's time and earlier, the student accustomed to the terms of modern philosophy may well carry away a false impression" (*Plato's Theory of Knowledge* [New York, 1957], pp. vii-viii).

Certainly, *dynamis* is not "force," as Taylor seems to say; and there is need to determine the precise meaning of the word in Plato's time and earlier. Whether there is here question of a definition of being or merely of a mark or characteristic does not seem as important as the determination of the meaning of "power" in the text of Plato. Cornford here criticizes the interpretation of the text in question by A. N. Whitehead as unscholarly; this interpretation of the later dialogues and of the text in question —unintentionally, of course—points up the community of philosophic spirit between Plato and Whitehead that the latter always proudly acknowledged.

[5]Paul Shorey is certainly among the staunchest defenders of the unity and continuity of Plato's thought (*What Plato Said* [Chicago, 1934], pp. v-vi). Raphael Demos shows fine insight into the subtleties of Platonic thought but seems to suppose by his method of approach to the dialogues a uniform progression of thought from the earliest to the late dialogues (*The Philosophy of Plato* [New York, 1939]). A. Wedberg also seems to suppose an identification of the dialectic of the good and the dialectic of collection and division. His book, of course, does not explicitly treat of the problem of knowledge; but when he does speak of dialectic, it is of the dialectic of essence that is the fond hope of the *Republic* (*Plato's Philosophy of Mathematics* [Stockholm, 1955], p. 44). Cf. also W. D. Ross, *Plato's Theory of Ideas* (Oxford, 1951) and R. Loriaux, *L'être et la forme selon Platon* (Paris, 1955).

[6]Ross does not understand the criticism of the early theory of Ideas as being seriously meant; it is rather the wording of the earlier presentation that must be corrected (*Plato's Theory of Ideas*, pp. 87-88). The *Parmenides* and *Theaetetus* are not then, according to Ross, dialogues of crisis but are rather manifesting Plato's new interest in Eleaticism and a strong, if negative, argument for the existence of the Ideas (*ibid.*, pp. 83 and 103).

R. Loriaux considers the Platonic dialectic as having developed in a twofold movement, the ascending dialectic and the descending dialectic. In the exposition of the twofold dialectic, however, Plato first completed the ascending dialectic and then began the development of the descending movement. Thus the exposition of the *Sophist* completes the early dialogues *en*

Platonic and the Aristotelian definition along with their metaphysical implications and certainly underplays the significance of the Aristotelian critique of Platonic division. Taylor also finds the definition of being as power in the *Sophist* as merely provisional and not to be taken seriously; this I believe is a serious oversight, since the definition of being as power and the method of division mutually imply one another, so that the one without the other is unintelligible.[4]

Other commentators claim a stricter unity for Plato's thought and excluded the possibility of a radically new dialectic; these are the "friends of the Forms" who cling to the ideal of knowledge that is presented in the early and middle dialogues and reaches its climax in the *Republic*. Such commentators include Paul Shorey, Raphael Demos, W. D. Ross, and R. Loriaux.[5] Certainly, the *Republic* does present an a-priori ideal of "synoptic" and deductive science that is re-echoed by the rationalists of the seventeenth century; but it is questionable that this ideal of knowledge represents Plato's last word on the matter. I hope to show that it was not. W. D. Ross and R. Loriaux do not see the *Theaetetus* and *Parmenides* as dialogues of real crisis for the early theory of Forms and consequently fail to see the radical change in the theory of Forms implied by the introduction of nonbeing and the method of division.[6] Similarly A. Diès vigorously maintains that the *Sophist* does not represent any radical change in the theory of Forms and that the definition of being as power is no more than a middle term in the argument, merely provisional and certainly not seriously intended.[7] Finally, William F. Lynch's study of

tachant de fournir une réponse aux problèmes nouveaux sur lesquels la dialectique descendante a attiré l'attention (*L'être et la forme*, p. 161). The whole long exposition adds little or nothing to the development of the Platonic system (*ibid.*, 141).

Similarly R. E. Cushman sees the dialectic of the *Republic* as the movement of ascent. "The upward course represents the 'metaphysical' movement of Plato's thought which remains to the end integral with the whole" (*Therapeia: Plato's Conception of Philosophy* [Chapel Hill, 1958], p. 117). The method of division is "a methodology for stabilizing empirical knowledge by supplying a way (*methodos*) to differentiate haphazard from critical observation" (*ibid.*). Thus the Platonic refusal to find intelligibility in the sensible world is smoothed over, and the permanence of the dialectic of essence of the *Republic* is staunchly maintained.

[7] *La définition de l'être et la nature dans le* Sophiste *de Platon* (Paris, 1932), p. v.

the *Parmenides*, in which he claims to have discovered a systematic and ordered exposition of Platonic metaphysics, supposes a uniformity of the theory of Ideas and remains oblivious of the implications of the criticism of the early form of the theory in the *Theaetetus* and *Par-*

[8]*An Approach to the Metaphysics of Plato through the* Parmenides (Washington, D.C., 1959). Father Lynch claims that the *Parmenides* "could . . . be taken as a kind of textbook summary of Plato's metaphysics, presented in a comprehensive and ordered way, unlike any of the other dialogues" (*ibid.*, p. vii). This conclusion seems unwarranted especially in view of what is to follow in the *Sophist*, where Parmenides must be slain in order that nonbeing might be introduced; if Plato had already introduced nonbeing in the *Parmenides*, then the parricide of the *Sophist* is meaningless. Lynch, nonetheless, maintains that the doctrine of nonbeing, which he considers a form, is anticipated in the hypotheses of the *Parmenides* (*ibid.*, pp. 199-200). Thus Lynch not only maintains a unity of Platonic thought but goes so far as to maintain that a single one of the late dialogues is the key to the systematic interpretation of the whole of Plato's thought.

[9]The period of historical studies which assumed that since Kant and Plato were both great philosophers, their approach toward the study of philosophy was the same and yielded the same conclusions is generally a thing of the past; though there are today scholars who read into Plato everything from an analogy of being to a Protestant existentialism, there are many more studies that are concerned with what Plato really meant and could mean in his historical situation.

[10]Ross gives the chronological ordering of the dialogues according to Arnim, Lutoslawski, Raeder, Ritter, and Wilamowitz. In general there is much disagreement between the five scholars about the order of the early dialogues; however, "as regards the later dialogues, from the *Republic* onwards, there is almost complete agreement" (Ross, *Plato's Theory of Ideas*, p. 2). This is not to say, however, that all scholars agree about the dates of the later dialogues; but this is a problem to handle later.

[11]The writings of H. Cherniss have vigorously argued against the use of the Aristotelian criticism of Plato, and Cherniss has even gone so far as to claim that Plato had no "oral teaching" and that "Plato did not expound any physics or natural philosophy beyond that which he wrote in the *Timaeus* . . ." (*The Riddle of the Early Academy* [Berkeley, 1945], p. 72). W. D. Ross argues to the contrary that Plato did give some oral instruction in philosophy and that the Aristotelian criticism of Plato may be accepted with caution (*Plato's Theory of Ideas*, pp. 150-51). Father Leo B. Kaufmann, S.J., examines the possibility of using the Aristotelian critiques; while recognizing the difficulties of Platonic scholarship in this area, he argues that there is little or no reason to suppose that Aristotle is deliberately misinterpreting the teaching of his master and that there is every reason to suppose that Aristotle fully understood the thought of Plato as it had developed during the last twenty years of Plato's life—the period of the later dialogues and of Aristotle's stay in the Academy. Furthermore, there are sound textual grounds for arguing that Plato placed little value on, and confidence in, the power of the written word as a means of communication of knowledge; this, of course, would emphasize the importance of any record of the oral teaching. If this record is the critique of as brilliant a philosopher as Aristotle, who studied with Plato for twenty years, then the importance of the Aristotelian report of the oral teaching becomes very great. Cf. "Predication and Reality in Plato" (unpublished Ph.D. dissertation, Dept. of Philosophy, Saint Louis University, 1957),

menides and of the resolutive function of the *Sophist* regarding the difficulties raised in the two previous dialogues.[8]

A Question of Method

The most important decision to be made in a study of Plato is a question of method. Contemporary scholarship has generally progressed beyond the nineteenth-century Kantian and Hegelian interpretations of the dialogues and has made genuine progress toward an objective historical study of the Platonic texts.[9] The chronology of the dialogues has been carefully determined and generally agreed upon;[10] many authors even admit the use of the Aristotelian critique of Plato and Platonism as a confirmation of their interpretation of the text.[11] Unfortunately the basic continuity of Plato's thought has remained the assumption of most scholars. Treatments of the dialogues tend to focus about the ideal of knowledge proposed in the *Republic* and assume that this remains the unchallenged ideal throughout the later dialogues. It is on the basis of such an assumption that one can speak of *the* metaphysics of Plato as though one can legitimately move back and forth from the *Phaedo* and the *Republic* to the *Theaetetus* and the *Sophist* without confusing radically different approaches to reality. It is on the basis of a similar assumption that one can understand the dialectic of the Good that is the glory and grandeur of the *Republic* as the ascending moment of the same dialectic of which collection and division represents the descending moment.

The order and dating of the dialogues is of the utmost importance for understanding the significance of the later dialectic. I believe that Taylor is basically correct in allowing for a silent period of almost twenty years in Plato's life from the end of the writing of the *Republic*

p. 191. Other instances of this use of the Aristotelian texts in interpreting the later dialogues may be found in the articles of Professor Leonard J. Eslick on Plato. Cf. Eslick, "The Dyadic Character of Being in Plato," The Modern Schoolman, XXXI (Nov., 1953), 11-18; "Plato's Dialectic of Non-Being," *New Scholasticism*, XXIX (Jan., 1955), 33-49; "Plato on Being: A Reply to Mr. Wills," The Modern Schoolman, XXXVI (Mar., 1959), 205-8.

to the *Theaetetus*—with the exception perhaps of the *Phaedrus*.[12] I find it impossible not to take seriously the trenchant criticism of the theory of Ideas in the *Theaetetus* and the *Parmenides*, and find it incredible that this criticism was uttered within a few years of the writing of the *Republic*—not so much because I find it impossible that Plato could immediately criticize his own work, but because I find it incredible that Plato could criticize it and immediately replace it with a far more subtle dialectic than that of the *Republic*.

[12]W. D. Ross objects to Taylor's view that it supposes that Plato had written by the age of forty all the dialogues "down to and including the *Republic*, which cover nearly 1,200 pages, and in the remaining forty years of his life dialogues covering less than 1,050; which, while not impossible, is not likely" (Ross, *Plato's Theory of Ideas*, p. 5). It seems to me to be just as unlikely that an author keep up the same pace in his writing throughout his whole life. In the case of Plato, who placed less and less confidence in the power of the written word as he grew older and who apparently radically revised his earlier position, it seems quite likely not only that the work of his later years be less voluminous but that there be a silent period of considerable length during which the elaborate revision of thought took place.

[13]Stenzel, *Plato's Method of Dialectic*, p. 81.

[14]*Ibid.*, pp. 79-83.

[15]Taylor, *Plato*, p. 300.

[16]The *Phaedrus* does present Socrates as a "lover of these processes of division" (*Phaedrus* 266 b). Four divisions of divine madness are made: prophecy, mystic madness, poetic madness, and the madness of love. Socrates then tells us that the long discourse on love was "as a whole, really sportive jest; but in these chance utterances were involved two principles, the essence of which it would be gratifying to learn, if art could teach it" (*ibid.*, 265 c-d). These two principles are collection and division as it is then explained: "That of perceiving and bringing together in one idea the scattered particulars, that one may make clear by definition the particular thing which he wishes to explain. . . . That of dividing things again by classes, where the natural joints are, and not trying to break any part, after the manner of a bad carver" (*ibid.*, d-e).

There can be no doubt that this collection and division has much in common with the method of division as it is proposed in the *Sophist* and later dialogues; Socrates expresses great admiration for these divisions. "And if I think any other man is able to see things that can naturally be collected into one and divided into many, him I follow after and 'walk in his footsteps as if he were a god'" (*Sophist*, 266 b). Such Socrates has *hitherto* called dialecticians. The phrase μέχρι τοῦδε should refer to past time up to the present and hence to the dialectic of the *Republic*. Hackforth's translation here reads: "Furthermore—whether I am right or wrong in doing so, God alone knows—it is those that have this ability whom *for the present* I call dialecticians" (Plato's *Phaedrus* [Cambridge, 1952], p. 134; the italics are mine). This somewhat distorts the meaning of the phrase in question, though it does help square the text with Hackforth's claim that this is the method of division found in the *Sophist* and the later dialogues. "It is in this section that Plato for the first time formally expounds the philosophical method—the method of dialectic—which from now onwards becomes so prominent in his thought" (*ibid.*). Hackforth notes that Socrates also refers to himself as a lover of division in the *Philebus* (16 b). He sees that this is not the dialectic of the *Republic*, but something "less magnificent, but perhaps more practicable. . . . What is now contemplated is a piecemeal approach to knowledge, consisting in a

Before approaching the later dialogues one must recognize the fact that collection and division have been found in most of the early dialogues.[13] Stenzel has shown that the mention made of division in the *Republic* is no more than verbally similar to the dialectic of the later dialogues.[14] The question of the *Phaedrus*, however, is a good deal more complicated by the problem of its date of composition. Taylor places the dialogue early in the interval between the *Republic* and the *Theaetetus*, if not earlier than the *Republic*.[15] I agree with Taylor, though I think the *Phaedrus* almost certainly follows the *Republic* within a few years.[16]

If I am corect here, one could admit that the *Phaedrus* represents a quest for a new type of knowledge—for a relational knowledge rather than a knowledge of essence. Perhaps, to add another conjecture, Plato saw the impossibility of the essential dialectic of the *Republic*

mapping out of one field after another by classification *per genera et species* which will have the effect of at once discriminating and relating these concepts or class names which express not mere subjective generalizations but the actual structure of reality" (*ibid.*, p. 136).

Hackforth dates the *Phaedrus* at about B. C. 370 and thus would place it immediately after the *Republic*, which he feels Plato wrote during the greater part of the decade 380-370. This establishes a continuity in the dialogues that is somewhat incredible; I cannot believe that there was not a rather long interval between the *Republic* and the *Theaetetus* and *Parmenides*. Just where between the *Republic* and the *Theaetetus* the *Phaedrus* should be placed remains a difficulty. I would tend to agree with Taylor that the *Phaedrus* is early rather than late in the interval. Although collection and division are mentioned and though the ideal of knowledge found in the dialectic of the Good in the *Republic* seems to be modified as Hackforth argues, nonetheless Socrates does say that it is these men whom he has *hitherto* called dialecticians. Furthermore, the method of division as here proposed has much in common with the synoptic view that was the culmination of the essential dialectic of the *Republic*—as Hackforth himself admits. Plato uses συνορᾶν in 265 d, which is clearly reminiscent of ὁ γαρ συνοπτικὸς διαλεκτικός of the *Republic* (537 c). So too in 266 b the man whom Socrates admires is one δυνατὸν εἰς ἓν καὶ ἐπὶ πολλὰ πεφυκοθ' ὁρᾶν. It is not clear that this represents a radical difference from the dialectician of the *Republic*.

Personally I am inclined to consider the *Phaedrus* as transitional between the *Republic* and the later dialogues. Plato is experimenting with a dialectic that has many of the features of the method of collection and division as known in the later dialogues; but he has not yet seen the radical readjustment in his metaphysics that this dialectic of otherness will require. Stenzel also judges that the *Phaedrus* is a transitional work (*Plato's Method of Dialectic*, pp. 151-52). Kaufmann is silent about the position of the *Phaedrus* save to acknowledge Stenzel's opinion.

within a few years after he wrote the masterpiece; he then experimented with the possibility of a relational, nonessential type of knowledge that would determine "the precise degree of resemblance and dissimilarity between this and that" [17] without coming to an essential knowledge of the object. During the lengthy period from the *Phaedrus* to the *Theaetetus* Plato reformulated the theory of Ideas to conform with his new ideal of knowledge—an ideal that has never won the hearts of the "friends of the Forms," but an ideal that is humanly realizable.[18]

The *Theaetetus*

Though the method of division is not found earlier than the *Sophist* in any developed form, the intimate connection between the *Theaetetus*, *Parmenides*, and *Sophist* requires that these dialogues be seen as the context in which Plato chose to make the first full presentation of the method of collection and division. The *Theaetetus* has been dated with accuracy at 368-367 B.C., though it had once been considered an early work. The *Parmenides* was probably written, at least partially, before the *Theaetetus*, though Taylor argues: "In any case they must be nearly contemporary." [19] Thus, the later dialogues from the *Theaetetus* on were written during the last twenty years of Plato's life—the period of Aristotle's stay in the Academy.

The three main characters of the dialogue—Socrates, Theaetetus, and Theodorus—afford matter for reflection. Theaetetus and Theodorus

[17] *Phaedrus* 262 a. Hackforth here comments: "What should be especially noticed in this argument is that knowledge of truth has come to be conceived as how things resemble and differ from one another; we are in fact coming to see that the way to truth is the method of dialectic, with its two parts, collection and division" (Plato's *Phaedrus*, p. 129).

[18] The "friends of the Forms" in the *Sophist*, as I have come to understand them, are the followers of Plato devoted to the early version of the theory of Forms in which there was no interrelatedness among the Forms and in which each remained a simple, immobile unity, "enjoying a splendid isolation not only from sensibles but from each other." Cf. Garry Wills, " 'Being' in *The Sophist*," The Modern Schoolman, XXXVI (Mar., 1959), 197-204; cf. also the reply by L. J. Eslick in the same issue, p. 206.

[19] Taylor, *Plato*, p. 321.

[20] *Ibid.*, p. 322.

[21] In the *Republic* pure mathematics was true knowledge but inferior to the dialectic of essence in which mathematics was ultimately grounded. In the later dialogues Plato surrenders the claim to essential knowledge of the Forms; nevertheless, each Form remains a univocal unity in its essence. This is why the Forms become numbers in the later dialectic, and in accord with this move mathematics becomes dialectic. Cf. L. J. Eslick, "Plato on Being: A Reply to Mr. Wills," p. 207.

[22] *Theaetetus* 148 d.

[23] Cornford, *Plato's Theory of Knowledge*, pp. 27-28

were two of the greatest mathematicians of the Academy; both are also present in the *Sophist*, though the Eleatic stranger replaces Socrates in the later dialogue. The presence of the two mathematicians in these dialogues of crisis seems to be a clear indication of the role of mathematics in the reformulation of Plato's thought. Theodorus of Cyrene claims to be solely a mathematician unpracticed in the philosophy of the day and, like the aged Cephalus of the *Republic*, rapidly extricates himself from the main stream of the conversation. From Iamblichus we know that he was of the Pythagorean order; from Proclus that he ranked as one of the greatest of the fifth-century geometers. The younger Theaetetus was one of the first mathematicians of the fourth century and is credited with the beginning of a systematic study of the irrationals which were worked out to completion in Euclid's tenth book; he is also credited with the inscription of the octahedron and icosahedron within the sphere.[20] I believe that this presence of the two mathematicians is not without great significance and cannot be legitimately ignored in an objective interpretation of Plato's *Theaetetus* and *Sophist*. Even in the *Republic* fifteen years of mathematical training was considered an essential prerequisite for the study of dialectic; the emphasis upon mathematics is a constant factor throughout the middle and later dialogues, although, as we shall see later, the relation between philosophy and mathematics changes radically from the *Republic* to the later dialogues.[21]

The *Theaetetus* begins as another typical Socratic dialogue seeking after a definition of knowledge. Theaetetus can readily supply examples and objects of knowledge but cannot state what knowledge is in itself. Mathematics is taken as a model of knowledge; mathematical definition as the ideal for definition. Socrates bids Theaetetus:

> Take as a model your answer about the roots: just as you found a single character to embrace all that multitude, so now try to find a single formula that applies to many kinds of knowledge.[22]

Cornford notes the parallel with the first part of the *Meno*, where a definition of virtue is sought; there also a mathematical example is employed.[23] The mathematical or geometrical solution to the problem

of irrationality in number is the Platonic ideal for the solution of the problem of the irrational element in being.

Difficulties in Platonic Definition

The real difficulty with Plato's demand for definition can be traced through the study of the early dialogues and in part is the source of the crisis of the later dialogues. The relation of the genus to its species presented itself already in the *Protagoras* as a problem that seemed to defy a rational solution.

> Now I want you to tell me truly whether virtue is one whole, of which justice and temperance and holiness are parts; or whether all these are only names of one and the same thing. . . . There is no difficulty, Socrates, in answering that the qualities of which you are speaking are the parts of virtue which is one.[24]

They are parts of one virtue and differ from one another as the parts of a face and not as homogeneous parts; for example, as parts of gold. Holiness and justice differ, but holiness is holy and justice is just. Then holiness is nonjust, and surely the nonjust is also the nonholy. Hence it seems that one must either identify justice and holiness with the genus virtue so that holiness is justice, or admit that justice is not holy. The Platonic genus remains a unit separate from its species; for, if it is not a unity in itself independent of its species, virtue itself would be a nothing.

The quest of the early dialogues is a quest for definition—for real and essential definition. Plato demands the impossible of his definitions; Socrates often asks for definitions of undefinables and for strictly univocal definitions. His procedure is to reduce an object to its supreme genus and then to demand a definition of that. His genera, too, are strictly univocal and in no way potentially contain the species; nevertheless, it is one of the basic assumptions of the early dialogues that knowledge supposes definition.

[24] *Protagoras* 331 b.

[25] Kaufmann, "Predication and Reality in Plato," pp. 34-35.

[26] Richard Robinson remarks: "It seems . . . that his procedure implies . . . that there is a word or set of words which gives or enshrines a knowledge of the thing X in some way in which the word X does not enshrine a knowledge of the thing X even for those who understand it and use it correctly" (*Plato's Earlier Dialectic* [Ithaca, 1941], p. 34).

Though Plato demands real and essential definitions as the basis for rational discourse, he imposes such conditions upon his definition that he all but renders it an impossibility. Father Kaufmann sums up the situation as follows:

> There seems to be in Socratic-Platonic thought, right from the beginning, an absolute dichotomy between the one and the many. And along with this dichotomy there is always the drive toward a higher genus. Virtues must be reduced to virtue as such, virtue as such to knowledge as such. . . . But even more disconcerting is the absolute dichotomy or schism between essence and attributes. A thing's essential meaning must never be got through its attributes, properties or qualities, nor be articulated in terms of them.[25]

Socrates is looking for a meaning of nature or essence in each of the cases as opposed to property; he is seeking a "magic charm" to express the essence of the thing to be defined.[26]

Another problem regarding Platonic definition is its very mathematical character. Skepticism with regard to the study of nature had redirected Socrates to the study of man and ethical ideals; in the later dialogues Plato seeks refuge from skepticism in the rapidly growing science of the pre-Euclideans. We have seen the acceptance of the mathematical ideal or model for knowlegde and definition in the *Theaetetus;* this heightens the problem of defining, since the geometrical figure, being univocal, can be clearly and distinctly conceived without its differences; for example, triangle without equilateral or right. This, however, is not equally the case with nonmathematical, nonunivocal genera.

A Definition of Knowledge

Theaetetus suggests that knowledge is perception, and Socrates interprets this in the light of Protagoras's dictum that "man is the measure of all things." This leads to a complete relativism that reduces knowledge to what appears to each individual. Socrates then combines this with a Heraclitean doctrine of the flux of the material world which contains within it contrary properties—heavy and light,

large and small. The sensible world is not being, but rather a becoming—a motion or process.[27] No single sensible thing "is in and by itself";[28] in other words, there is no such thing as a substance in the world of sense. A sensible is not *ousia* but a mere becoming, a process. The Heraclitean account of the sensible world is another of the constants of Plato's thought that is found as early as the *Cratylus* and as late as the *Timaeus*.[29]

Sensation arises in the percipient from the intercourse of the motion from the object and the motion from the sense. The conclusion drawn is that "nothing *is* one thing just by itself, but is always in process of becoming for someone."[30] The sensible world is a flux of images upon the indeterminate or receptacle; no knowledge, consequently, can arise from a world of quality without substantial reality. There is no intelligibility in material things in any way whatsoever that could ever allow Plato to employ a theory of abstraction. In such a world everything is equally true and false; it follows that no percipient can have the same perception twice, that no two percipients can have the same sensation from the same object, and that neither percipient nor object exists save in relation to the other.[31]

This description of knowledge, however, places man on a level with that of the beast and makes every man equally wise. Plato then shows that there are some meanings of knowledge that are more than mere perception; for example, knowing Syriac is not merely perceiving Syriac characters, and knowing Socrates does not necessarily imply actually perceiving Socrates. At least memory is part of the given in knowledge. The recall of the doctrine of Melissus and Parmenides that being "is one, Immovable . . . the name of the All" points toward further difficulties with the present account of knowledge. The immobilism of Parmenides suggests that an acceptance of the Heraclitean theory as a whole is a truncation of the given knowledge.

Granted that perception is infallible, is perception knowledge? If all reality is in motion, there can be no knowledge, since not only are

[27]Aristotle tells us that Plato never relinquished the Heraclitean doctrine on the flux of the material world which in his youth he acquired from his master, Cratylus (*Metaphys.* 987 a 32).

[28]*Theaetetus* 153 e.

[29]The doctrine of the "receptacle" in the *Timaeus* re-affirms the Heraclitean position on the unintelligibility of the material world. There is no "this" in the world of change but only "such." Cf. *Timaeus* 49 ff.

[30]*Theaetetus* 157 b.

[31]Cornford, *Plato's Theory of Knowledge*, p. 57.

the percipient and object in constant flux but also the very meaning of language, so that what is now knowledge cannot the next moment be called knowledge. To seek the truth in such a truncated view of reality is truly "to chase a flying bird." Plato shows that the viewpoint of extreme Heracliteanism cannot be completely accepted if any form of rational discourse is to be maintained; he does not question the Heraclitean account of the sensible world, but he shows that either one must surrender his claim to rational discourse, to truth, and to knowledge or one must restrict the Heraclitean theory to the sensible world alone.

Thus Plato argues negatively to the theory of the Forms which he needs to account for the given of knowledge—true and infallible. If Plato did not have a given "true and infallible" science—mathematics and especially geometry—one wonders whether he would have successfully maintained his claim to a supraperceptual knowledge. Plato was, however, faced with the given of "Euclidean" geometry, which certainly is not derivable from the nonsubstantial world of qualitative flux. Hence, given the Heraclitean account of the sensible world and the "true and certain" knowledge of mathematics, there is need to postulate the intelligible world that the early dialogues has approached through the Socratic moral ideals. Existence, difference and sameness, unity and number, all require more than mere sense knowledge on the part of the knower and hence also, on the part of the object, the existence of suprasensible reality. The Forms are necessary to explain the given of knowledge if the world of scientific discourse is to be accounted for.

Perhaps knowledge is "making judgments," as Theaetetus next suggests. This is immediately seen to involve the problem of truth and falsity. Can one explain false judgment? What is it that makes judgment true? The problem is one that the *Sophist* will resolve; here Socrates prepares the ground for positive teaching by the negative task of showing that knowledge cannot be derived from opinion alone or from opinion with an account. The only anchor for opinion by which it can be made true and known as such is knowledge; consequently, one is led to the absurdity of defining knowledge as true opinion with knowledge. There is thus an absolute gulf between opinion and

knowledge, and there is no way of securing opinion in knowledge save through knowledge itself. Thus one cannot rise by successive hypotheses to the unhypothetical Good of the *Republic*; knowledge and opinion are irreducibly different—different by a magnitude that no arithmetical proportion can express, as Plato puts it in the beginning of the *Politicus*.[32]

The discussion of false judgment is interesting in view of the solution which Plato adopts in the *Sophist*. How can one predicate thus: *X* is *Y*? Or how can one predicate erroneously one thing of another? Antisthenes had reduced all predication to expressions of identity; Plato sees that any and every predication introduces duality into the subject. One cannot predicate anything of that which is absolutely simple; such was, unfortunately, the character of the Forms as proposed in the early dialogues. To pose the problem more clearly, let us take the propositions of the *Sophist* that motion is being and that rest is being. If being, motion, and rest are simples—atomic intelligible individuals--as the Forms of the early dialogues certainly were, what can this predication signify? Either motion and rest are identical with being and hence with each other—and all is a single whole as Parmenides held— or motion and rest and being are different, distinct, unrelated. In terms of the relation of justice and holiness with virtue, either justice and holiness are identical with virtue and with each other or justice and holiness and virtue are distinct, atomic, and unrelated. Either horn of the dilemma destroys the possibility of scientific discourse and predication.

Plato uses the image of the letters and the syllable in the last hypothesis of the *Theaetetus*—suggestive of this problem of knowledge and of the necessity of "weaving together" the Forms. If the elements (letters) are unknowable, then the complexus (the syllable) can never be known by a mere account or enumeration of the simple unknowables. In such a case knowledge of the whole would depend upon knowledge of each individual. Plato offers a suggestive solution:

[32]*Politicus* 257 a-b.

[33]*Theaetetus* 203 d.

[34]The *Theaetetus* explicitly deals, not with the world of the Forms, but with the world of change from which knowledge cannot be derived; it is thus a strong argument for the Forms. Here Plato suggests that a world of absolute simples is impossible and unknowable; the Forms, like the letters, are not knowable in themselves, but in relation.

[35]*Plato*, pp. 374-75.

> Perhaps we ought to have assumed that the syllable was not the letters but a single entity that arises out of them with unitary character of its own and different from the letters.[33]

If the Platonic Forms are not isolated spiritual atoms but are related to one another, then scientific knowledge is a possibility. Thus Plato here raises the problem of the communication of the Forms which he will resolve in the *Sophist*;[34] the *Theaetetus* merely suggests the machinery for the solution. The image of the syllable and letters, however, appears frequently in the later dialogues, as does that of the irrational or incommensurable that can be known only in its commensurable powers. The problem of the contraries—motion and rest—united in their genus, being, cannot be answered in the Platonic setting of univocity unless we slay the reverend father Parmenides through the admission of the existence of nonbeing. Plato foreshadows throughout the *Theaetetus* and *Parmenides* the metaphysical solution to the problems of being and knowledge that is the triumph of the *Sophist*.

The *Parmenides*

Before taking up the dialogue of solution with the method of division, let us briefly see the place of the *Parmenides* in the crisis of Plato's thought. Taylor tells us that the whole purpose of the emphasis on the philosophy of Elea is the suggestion that Plato is the true spiritual heir of Parmenides.[35] As the *Theaetetus* showed clearly the extent to which Plato would maintain the flux doctrine of his master, Cratylus, so the *Parmenides* shows the limitations of pure Eleaticism and also of the earlier theory of Forms, while once again emphasizing the need for the Forms if there is to be a world of scientific discourse.

The respect which Plato renders Parmenides is shown most clearly in the criticism of the Forms which Plato puts in the mouth of the great Eleatic. Plato realizes that the earlier theory of Forms presents a serious danger to the possibility of rational discourse no less than the complete flux of Heraclitus or the total immobilism of Parmenides. The criticism of the theory of Forms is intended to manifest the shortcomings of the theory as Plato had first presented it twenty years before in the *Republic* and *Phaedo*. There each Form was considered

as an absolute simple; for example, virtue itself or the Good itself. From the early theory arises the difficulty which Wedberg calls the basic antinomy of the theory of Forms. Plato argues to the existence of the Forms from the "one-over-many" argument and then claims that the Form is an instance of itself. Justice is just if anything is, Plato often says; but does this not imply that there is another Form by which justice is just?[36]

The meaning of participation becomes crucial; the participant cannot be said to be either a part or the whole of that in which it participates. *Chorismos* of some kind is imperative to preserve the unity of the Form; yet immanence of the higher in the lower or a relation of likeness—necessarily two-way—between the participated and participant is ruled out as possible meaning for participation. It is important to realize that the problem is equally grave whether one poses the question in terms of the participation of sensibles in the Forms or in terms of the participation of the Forms in one another. Divisibility of the Form in its essence is not possible: "Are you, then, prepared to assert that we shall find the single Form actually divided? Will it still be one? Certainly not."[37] It is particularly important to remember that the Form can never be divided in itself; if it were, it would no longer be one but many. If the Form of animal were itself divided into man and brute, then the Form of animal would no longer be one; it would not be anything, since it would not be separate. It is because of the fact that the genus—the higher Form—is not divided in itself that division requires the existence of nonbeing and that the final definition must include all the genera and species. Each genus remains a unity that is always indivisible in itself; the

[36]"Plato assumes that, e.g. the Idea of Beauty is itself an ideal object which is beautiful (and supremely beautiful), the Ideal of Justice is itself something that is just (and supremely just), and so on. . . . To be beautiful is to participate in the Idea of beauty. . . . Hence, if the Idea of beauty is beautiful . . . then every Idea participates in itself. . . . This consideration, which I choose to call the fundamental antinomy of the Platonic theory of Ideas, is the greatest logical weakness of that theory" (Wedberg, *Plato's Philosophy of Mathematics*, p. 36).

[37]*Parmenides* 131 c.

[38]*Plato and Parmenides* (London, 1939).

[39]"If you start with the conception of a One which is one and nothing else, without any kind of diversity or plurality, then you cannot clothe this bare unity with any further attributes, since that would be to contradict the definition" (*ibid.*, p. 50).

species that participate in the genus fall outside the genus, for only through such a *chorismos* can the genus remain a univocal unity.

The second half of the *Parmenides* has become less an enigma through the deft exegesis of F. M. Cornford, who distinguished the two meanings of the One in the Hypotheses.[38] The first hypothesis presents the assertion of the One Simply and examines the implications that flow from such an assertion. The One Simply cannot be said even to be; all discourse is brought to a halt. Parmenidean monism is pushed to the extreme of its implications through the assertion of the One Simply; the more immediate problem, however, is that the Platonic Forms are absolute simples as they are presented in the early dialogues. The theory of Forms—each an absolute simple and posited to account for knowledge—now takes its vengeance upon its author by destroying the possibility of scientific predication. If the Form is a simple, then justice, for example, cannot be said to be just since scientific predication and definition imply composition. The logical result of the early theory of Forms and of extreme Eleaticism is the same—the death of all discourse.[39]

The second hypothesis asserts the One Being—a whole of parts, of which each part is also a One Being and which is thus indefinitely divided. The logical implications of the One Being entail the destruction of all discourse, since everything is everything. No differentiation is possible where everything exists only in relation; no substantial reality can be grasped, since nothing is sufficiently differentiated from anything else. Measure must somehow be introduced if the flux of the One Being is to be brought to a standstill. In a sense, the One Simply reveals the impossibility of knowledge on the conditions set by Parmenides and the "friends of the Forms"; the One Being reveals the impossibility of knowledge on the conditions of Heraclitus. The first leads to an intellectual atomism at best; the second to a sensist relativism.

If the essence of being contained motion and rest, the essence of being would be other than itself; it would be a whole of parts—the One Being. The One Simply is indivisible, unrelatable, unknowable; the One Being is infinitely divisible, infinitely relatable, and unknow-

able. Once again the problem must await the solution of the *Sophist*;[40] somehow a unit of measure must be introduced into the undifferentiated. If the Platonic genus is to remain a unity, a one, the species must fall outside the genus and be extrinsic to it. Thus, motion and rest are being; but the genus "being" is not in potency to its species. These lie outside the genus—in the otherness of the genus. This solution, however, will require the "death" of the great Eleatic, for nonbeing must be introduced into the real if one is to escape from the dilemma of the One Simply and the One Being.

Perhaps it should be mentioned here that Plato did not merely adopt the solution of the *Sophist* without seeing another possibility that lay in the direction of what we would call analogy. As Plato saw this possibility, it meant the admission that something was other in precisely that respect in which it was same. "Sameness itself and Difference are contrary to one another. So sameness will never be in what is different, nor difference in what is same."[41] The Platonic genera are strictly univocal; only through some doctrine of potency and act could Plato have accepted a doctrine of analogy that implies that a being is other in precisely that respect in which it is same.[42]

Plato's mathematical ideal prevents him from taking an analogical view of reality. Triangularity remains triangularity regardless of the kind of triangle involved; geometrical differences are in a way extrinsic to their genera. Animal, however, is different as animal in man and brute. Plato saw the possibility of an analogical solution to the

[40]The solution to the question of the communication of the Forms must await the *Sophist* because Plato cannot put the necessary doctrine of nonbeing in the mouth of Parmenides without turning his philosophical parricide into a suicide. The machinery for the solution certainly is ready, but Parmenides cannot introduce nonbeing; consequently, the *Parmenides* cannot be thought of as "so normal and so representative of the great philosopher's metaphysical doctrine that —more than any other of the dialogues —it might well serve the student as a working outline of the whole" (Lynch, *Approach to the Metaphysics of Plato*, p. 18). The *Parmenides* and *Theaetetus* seem rather to represent a break with the early theory of Forms and yet await the fuller exposition of the later theory.

[41]*Parmenides* 146 d. Thus, I cannot agree that there is real analogy in Plato's thought; Plato sees the implications of an analogical solution to his difficulties and clings to univocity. Lynch claims, however, that "as early as this in the history of philosophy we are given a *theory of analogy*" (*Approach to the Metaphysics of Plato*, p. 75).

[42]Nor should we blame Plato, for the elimination of any reality in the genus aside from its species is a considerable sacrifice—especially in exchange for the Aristotelian analogy of being that lacks the intrinsic principle of being by means of which an analogy of being is fully possible.

[43]*Plato's Theory of Knowledge*, 187.

[44]*Sophist* 236 e.

problem and clung to the mathematician's ideal of univocal knowledge of the real. Only through a doctrine of potency and act can sameness and difference be introduced without contradiction.

The *Sophist*

Finally we are ready to see the method of division as it is presented in the *Sophist*. I have spent considerable time developing the crisis in Plato's theory of knowledge and reality in order that the method of division may be seen in its proper context. Plato is not merely dabbling with a clever logical device developed during his years of senility; if one refuses, however, to see the metaphysical implications of the method of division, the later dialectic can hardly be considered more than a logical pastime.

Throughout the dialogue, the mysterious stranger from Elea holds the dominant position, as he does in the *Politicus* also. Plato, the true heir of Parmenides, now finds it necessary to commit philosophical parricide, since the introduction of nonbeing is necessary if knowledge is to be saved. The Eleatic stranger represents Plato's new teaching which cannot suitably be put in the mouth of either Socrates or Parmenides.

The division of the angler serves as a model for method. Each of the divisions of the *Sophist* is pursued partly in earnest, partly in satire; but as Cornford suggests, the first six divisions serve as an induction of instances or as the collection whereby the final division can be made with accuracy.[43] The elusory character of the Sophist leads the stranger to the problem of truth and falsity—to the path of nonbeing for which the *Theaetetus* and *Parmenides* have prepared the way. The Sophist is a creator of images—of what appears and seems but is not.[44] If we are to acount for the existence of falsity, nonbeing must in some way be; otherwise the arguments of the Sophists Euthydemus and Dionysodorus will triumph and exclude the possibility of false statements. For to speak the truth is to say what is; to speak what is false is to say what is not or to say no thing. Consequently, nonbeing must be in some way so that what is not can be said; the

alternative is that only what is can be said, so that everything that is said is true.[45]

The saying of the nonexistent involves the attribution of number to nonbeing, for we cannot avoid referring to it as either singular or plural. And "number must exist if anything does."[46] One cannot predicate what is real of what is not real; consequently, nonbeing, which must be either singular or plural, *is* in some way.[47]

Plato suggests a definition of being as one common to the "friends of the Forms" and the improved materialists:

> I suggest that anything has real being, that is so constitued as to possess any sort of power either to affect anything else or to be affected, in however small a degree, by the most insignificant agent, though it be only once.[48]

The meaning of "power" in the definition has been the subject of much debate and research. Dr. Souilhé sums up the philosophical use of the word in Plato and claims that the "Platonic *dynamis* can be defined as the property or quality which reveals the nature of a thing."[49] Unfortunately this seems to be strikingly un-Platonic. Plato's problems with definition would have been a great deal more simple if property or quality could lead to a knowledge of the nature of a thing. Father Kaufmann concludes that knowledge of nature through property was impossible in Plato's thought.[50] The scholarly work of Souilhé cannot be ignored, but it does seem that he has

[45]*Euthydemus* 284 c; *Sophist* 237 e.

[46]*Sophist* 238 b.

[47]The parallel here between Plato's argument and the form of argument used by B. Russell and G. E. Moore at one point in their development is striking. Cf. G. E. Moore, "The Conception of Reality," *Proceedings of the Aristotelian Society*, NS, XVIII.

[48]*Sophist* 247 d-e.

[49]Cornford, *Plato's Theory of Knowledge*, 236.

[50]"In any event the dichotomy he set up between essence and all qualities and properties was such that these latter could have no positive function in setting up a definition. The relationship between property and essence worked only one way, and that destructively" ("Predication and Reality in Plato," p. 44).

[51]A. Diès, *Autour de Platon II.*

[52]Liddell, Scott and Jones, *Greek-English Lexicon* (Oxford, 1938). Usually in its mathematical meaning, which Aristotle says is "by metaphor" (*Metaph.* 1019 b 33), *dynamis* means the second power, or square as in *Timaeus* 54 b; it is chiefly found in the dative in such expressions as *eutheia dynamei ise* a line the square on which is equal to the area (Archemides). In Euclid it is found in one of the definitions of the tenth book: *eutheiai dynamei summetroi* commensurable in square. In *Timaeus* 32 a, it is used of a square number; in *Theaetetus* 147 d, for the square root of a number that is not a perfect square.

[53]*Plato*, p. 324.

limited himself to the study of the *sens philosophique de la* δύναμις.[51] If by this expression he means that he has merely studied the philosophical use of the term—and it does seem that this is his meaning—then we can rightly ask how he has managed to distinguish the philosophical uses of the term from those that were not so used. His criterion for this distinction seems to have been his own conception of Plato's philosophy.

There is at least another use of *dynamis* in the dialogues and in Greek literature that is worthy of our attention.[52] The term can stand for a mathematical power of a number, for the product of two numbers, and, less commonly, for an irrational root or surd. Plato employed the term in the last sense in the *Theaetetus*, where Taylor comments:

> The use of the word *dynamis* in this sense of "quadratic surd" was presumably an experiment in language which did not perpetuate itself. The name for the "quadratic surds" which became technical in the Academy and has passed thence into Euclid and later mathematics generally is εὐθείαι δύναμει σύμμετροι, straight lines whose squares have a common measure.[53]

Taylor, however, makes no attempt to connect this usage with the definition of being as power, though the mathematical emphasis of the later dialogues and the criticism of Aristotle tend to suggest this as a possibility. As the irrational in geometrical figures is not knowable or measurable save through its relations with its "powers" through which it may be approximated as closely as one pleases, so too the irrational in being is unknowable and unmeasurable in itself; but through its relations it can be differentiated and measured with increasingly more and more accurate approximations. For the one is the essence of being, and being is an image of the one. If we take Plato's earlier statement that "number exists if anything does" and correlate this with his ideal of knowledge as measure and the expressions of relations, then I think the definition of being as power takes on a fuller meaning. That is being which can image the one in some way and thus be capable of measurement and of being known, not in its essence but through its relations. This requires that beings

be really related in such a manner that the particular Form is differentiated, not by what it is essentially but by its relations of sameness and difference. This implies the structuring of the Forms so that there is a foundation in reality for scientific predication; besides the essential unity of each Form, there must be a quasi-material principle —the foundation for these relations—otherness or nonbeing.[54]

Here it is important to notice that because being is power, because the Forms are in dynamic relation to one another and related in a manner that is knowable and measurable, knowledge and the method of division are possible. One should not be surprised to see that the power of action and passion does mean causality of an efficient kind and that the meaning here is reduced to being in measurable relation. For the relative principle in Plato is nonbeing—the indeterminate dyad of the great and small.[55] Plato's theory of relations seems to fuse the relation with the *fundamentum;* moreover, he seems to reduce quantitative change to qualitative. Thus, nonbeing and the intrinsic principle of relatedness are one and the same.[56] Consequently, as the irrational surd is not commensurable or knowable in itself but only through its powers through which an approximation of its measurement—as close as one pleases—in a ratio of whole numbers is possible, so the irrational in being—the indefinite continuum between contraries somehow one in their genus—is measurable or knowable through its powers— its relations by which it can be differentiated as precisely as one wishes.

This definition of being as power, as that which through its relations is differentiated, and the existence of nonbeing are essential to the solution of the communication of Forms in one another. In some way motion *is.* We must hold this to avoid Eleaticism and to save knowledge. In some way rest also *is.* We must hold this to avoid Heraclitus and to save knowledge. The One Simply and the One Being equally destroy knowledge; in some way both motion and rest, though

[54]*Metaphys.* 1089 b 16-24.

[55]Even in Aristotle relation has the least being of all the predicaments, and relation is founded upon action, passion, or quantity (*ibid.*, 1088 a 29-35).

[56]That Plato tended to fuse the foundation and the relation, or, what comes to the same thing, that he tended to make the relation intrinsic to the thing related and constitutive of the *relatum,* seems to be clear in his discussions of difficulties arising from relational predication.

[57]*Sophist* 252 e.

[58]Demos, *Philosophy of Plato,* p. 130. Gilson seems to accept unquestioningly the conclusion of Demos (*Being and Some Philosophers* [Toronto, 1952], p. 12).

[59]*Plato's Method of Dialectic,* pp. 86-95.

contraries, must be being. No participation leads to the impossibility of the One Simply; participation of everything in everything leads to the impossibility of the One Being. The only possible solution is that some things participate in some things, but not all in all.[57] Motion is not rest; sameness is not otherness. Motion is, however, being; and rest also is being. The genus of being, then, is divisible, not in itself —in its essence, which is a one—but in its otherness or nonbeing. The species are extrinsic to the genus, so that being is not divided in itself but in the otherness of being in which lie the contraries of motion and rest. Thus being is other than motion and rest, and rest is other than motion. Sameness and otherness are relative. Each Form is the same as itself or in relation to itself; each Form is other than all the others or in relation to all the others. An equation of being with sameness or selfhood is a misunderstanding of the relative character of the Same and the Other.[58]

The implications of this structuring of the Forms are important for the method of collection and division. This structuring, first of all, means that no Form is divided in itself, in its essence. Such a division would be the destruction of the Form. The genus remains a unity; being, for example, is a unity which is divided into motion and rest, not through division of its essence but through division of its otherness or nonbeing. Being is the essence of motion and rest, but as the One is above being, so the essence of motion and rest is above or separate from notion and rest. Let us divide again. Motion might well be divided into local motion and qualitative motion. These are differences once again that lie outside the essence of motion, though motion is their essence. The Platonic genus is a separate univocal unity which is in no sense in potency to its species as is the Aristotelian genus; the Platonic genus is a unit that is more perfect and actual as it is more universal.

Secondly, there can be no "atomic form" of which Stenzel speaks.[59] Since each Form is indefinitely divisible through its otherness, there is nothing corresponding to the indivisible *infima species* of the Aristotelian logic. Plato does speak of arriving at an "uncuttable" Form, but this means rather a sufficiently close approximation than a truly atomic Form. Division in theory can be continued indefinitely, just

as one can indefinitely continue to approximate the square root of the unit square.[60] Platonic dialectic, based on a mathematical ideal of knowledge, has much in common with modern mathematical physics, which is also based on measurement and relation rather than on essential knowledge.[61]

Thirdly, there is an intimate connection between the method of collection and division, the definition of being as power, and the existence of nonbeing or otherness. The new dialectic implies a radical change in the meaning of the real and in the metaphysics of the Forms. Plato does not suggest the definition of being as power without serious intent; it is only because beings can enter into relationship with one another that the existence of nonbeing is required if Plato is to avoid the intellectual atomism that he clearly sees is fatal to all rational discourse.

Finally, this interpretation accounts for the Aristotelian criticism of Plato's doctrine of Forms as Aristotle knew it during the twenty years of his stay in the Academy. Since there is no reason to suppose that Aristotle is perversely explaining the oral teaching of his master and since there is every reason to suppose that he was thoroughly familiar with it, an interpretation that can account for the oral teaching has much in its favor.[62]

The *Politicus* and *Philebus*

Before drawing the paper to a close, let us look briefly at the method of division in the *Politicus* and *Philebus*. The former continues the work of the *Sophist*. The *Sophist* solved the problems of the interrelation and communication of the Forms and of nonbeing, and finally reaches a definition of the Sophist and also of the true dialectician somewhat by chance. The *Politicus* now studies the statesman The ideal of the philosopher-king is forgotten; the Sophist, statesman,

[60]Taylor, *Plato*, p. 510.

[61]It is interesting that it was this mathematical form of Platonism that was so strongly influential with the founders of modern science, such as Galileo and Kepler. Skepticism of essential knowledge in both cases seems to have led to a mathematical ideal of knowledge that was based on measurement. Essential knowledge was in each case supplanted by quantitative measure—by relational knowledge.

[62]Kaufmann, "Predication and Reality in Plato," p. 191.

[63]*Politicus* 257 a-b.

[64]*Ibid.*, 258 e.

[65]*Ibid.*, 260 b; 262 b.

[66]*Ibid.*, 262 a.

[67]*Ibid.*

[68]*Ibid.*, 262 3.

[69]*Ibid.*, 263 b.

[70]*Ibid.*, 265 b.

and philosopher are not of equal worth but differ from one another by more than is expressible in a mathematical proportion.[63] Here the theoretical and practical sciences are immediately distinguished, whereas in the *Republic* only the philosopher was fit to rule.[64]

The division toward the definition of the statesman proceeds by "bisection"—dividing in half each new division; there is considerable emphasis on dividing in half at each step of the division.[65] The aim is to halve each genus—to find some way in which the genus is twofold and thereby to "cause that which is now sought among a double number of things to be sought among half as many."[66] There is danger in taking a single part and setting it off against many large parts without regard for the Forms. On the contrary, the part ought also to be a Form. It is fine to separate off the object of search immediately if this can be done correctly, but it is safer to proceed by bisection rather than by whittling off shavings. By cutting through the middle one is more likely to find classes or Forms.[67] Apparently one should strive to divide the genus at the quantitative midpoint rather than follow the logic of cranes. The division of man into Greeks and barbarians or of number into myriad and all the rest is poor methodology; one has no assurance that barbarian or nonmyriad numbers are one species of Form. Division of number into odd and even and of man into male and female is more equal and better.[68] If it is impossible to find a part that is also a class, then one might—as a last resort—divide into Lydians and Phrygians. Class and part are not other than each other. Every class of a genus is also a part, but not every part is also a class.[69] To divide living beings into human beings and beasts is to use the logic of cranes; for, as a crane might oppose cranes to all other animals and group the rest under one head and give them a single name, so we tend to make our division of animal into man and beast.

The division of the statesman is resumed. The stranger sees two paths by which he can proceed—a shorter and a longer. The shorter way separates off a relatively small part from the rest and is less in accord with what has been given as the ideal. Nonetheless, the division is near the end, and less danger is here involved in the shorter method.[70] The stranger first follows the longer way which divides

more nearly in the middle. Here the division of tame, walking animals living in herds into horned and hornless is made; it is difficult to see that this is not the logic of cranes unless one admits that the division more closely approaches bisection of the genus than the division by means of the shorter way. The stranger asks Theaetetus —qua geometer—to make the final division by the diameter.[71] The diagonal of the unit square was the mean and an irrational in which Theaetetus was particularly well versed. The diameter also perfectly halves the square, but the diameter cannot be expressed more than approximately by a ratio of whole numbers. If we overlook the obvious pun here involved in the text, there is also the possibility that the stranger wishes to suggest again the mathematical character of the method of division and the need to be content with an approximation, since the irrational in geometry and in being can never be more than approximated. The bisection of the genus is the best guarantee that one is dividing according to the Forms; apparently Plato realizes the difficulty of finding Forms at each stage of the division. Care in finding the quantitative mean is the best guarantee of success and is of extreme importance at the beginning of the definition, though toward the end a shorter way might be used with less danger of error. That one can proceed equally well by either of two paths indicates the nonessential character of Platonic definition; one defines by expressing relations, by otherness, not by essential difference. The relation between this dividing by the diameter and the definition of being as power in the *Sophist* is perhaps stretching a point, but perhaps not. The mathematical use of *dynamis* is common in Greek and not foreign to Plato's vocabulary. As the power or surd is known through its powers, which are measurable wholes or ratios of whole numbers, so the irrational in being is known or measured by relation to the other Forms. The final definition of the statesman is long-winded; as in all such definitions the whole series of genera and species must be expressed. The Platonic genus is *dynamis* or power,

[71] *Ibid.*, 266 a-b.

[72] As I mentioned when the image occurred in the *Theaetetus*, Plato seems to have seen that a universe of unrelated simples is neither possible not knowable. The image of the letters—the unknowable simples—combined into a unity that is not a mere summation of the elements points toward the solution adopted in the *Sophist*; it is interesting to note that the word for syllable and for collection are the same in the Greek—*syllabe*.

[73] *Philebus* 16 d-e.

[74] *Ibid.*, 18 e.

but not *dynamis* in the Aristotelian sense; the Platonic genus is a unity apart from the species. Aristotle's potential genus is dependent upon his doctrine of analogy and of potency and act, but analogy can never fit into Plato's univocal mathematical ideal of knowledge.

The content of the *Politicus* and the *Philebus* is too vast for any thorough treatment in this already lengthy paper. The doctrine on the mean in both dialogues and in the *Epinomis* is important for this interpretation of the mathematical character of Plato's later theory of knowledge. The image of the letters and syllable which is found in the *Theaetetus*, *Sophist*, and *Philebus* receives its fullest treatment in the last-named of the dialogues and is of particular importance for our interpretation.[72] A description of the method of division is particularly helpful in correlating the method of collection and division and the four kinds of the *Philebus*.

> This being the way in which these things are arranged, we must always assume that there is in every case one idea of everything and must look for it—for we shall find that it is there—and if we get a grasp of this, we must look next for two, if there be two, and if not, for three or some other number; and again we must treat each of those units in the same way, until we can see not only that the original unit is one and many and infinite, but just how many it is. And we must not apply the idea of infinite to plurality until we have a view of its whole number between infinity and one; and then and not before, we may let each unit of everything pass unhindered into infinity.[73]

This is explained by the image of the letters of the alphabet. Speech is one and yet infinite as well; one is wise who knows not merely that it is infinite or that it is one. It is rather knowledge of the intermediate that makes one a grammarian; one must know the way "each of them [is] one and many, and how it is that they are not immediately infinite, but each possesses a definite number, before the individual phenomena become infinite."[74] Another text from the *Philebus* is the closest that Plato comes to an explicit teaching of the indeterminate dyad of the great and small, to which Aristotle refers

as the quasi-material principle of Platonic metaphysics.[75] It is through the introduction of measure that the indeterminate is differentiated and made knowable. Hotter and colder represent an infinite continuum that must be differentiated or brought to a standstill by the introduction of measure to be known. It is not an essential knowledge that is the hope of the later dialogues but a relational type of knowledge that demands the introduction of oneness into the indeterminate. Thus harmony and measure are created.[76]

To this long treatment of the mathematical character of the later dialectic a final note on the place of mathematics in Plato's thought is not out of place. Even in the *Republic*, mathematics pertained to the realm of knowledge—*episteme*, though it held a subordinated position to the highest form of knowledge—*noesis*. In the later dialogues mathematics is no longer a hypothetical science grounded in intellectual intuition of the Good but assumes the role of the standard and form for all dialectic.[77] As an essential knowledge of the Forms proved itself an impossibility, each of the Forms became a unit in its essence differentiated and known only through its relative nonbeing or otherness. As the Forms became units known only through their relations with one another, they literally became numbers. As the Forms became numbers, the science of dialectic became the science of measure and number. Thus Plato moved from a ration-

[75]"I am glad you responded, my dear Protarchus, and reminded me that the word 'emphatically' which you have just used, and the word 'gently' have the same force as 'more' and 'less.' For wherever they are present, they do not allow any definite quantity to exist; they always introduce in every instance a comparison—more emphatic than that which is quieter, or *vice-versa*—and thus they create the relation of more or less, thereby doing away with fixed quantity. For, as I said just now, if they did not abolish quantity, but allowed it and measure to make their appearance in the abode of the more and less, the emphatically and gently, those latter would be banished from their own proper place. When once they had accepted the definite quantity, they would no longer be hotter or colder; for hotter and colder are always progressing and never stationary; but quantity is at rest and does not progress. By this reasoning hotter and its opposite are shown to be infinite" (*ibid.*, 24 c-d).

[76]*Ibid.*, 25 e—26 a.

[77]This is perhaps most clearly stated in the *Philebus* 57-58. "Certainly; and let us say in reply, that those arts into which arithmetic and mensuration enter, far surpass all others; and that of these the arts or sciences which are animated by the pure philosophic impulse are infinitely superior in accuracy and truth. . . . And yet, Protarchus, dialectic will refuse to acknowledge us, if we do not award to her first place. And pray, what is dialectic? Clearly the science which has to do with all that knowledge of which we are now speaking. . . ."

[78]*Metaphys.* 987 b 19-24.

[79]*Ibid.*, 987 b 26-7.

[80]*Ibid.*, 987 b 30-33.

alistic dialectic of essence to an almost skeptical dialectic of relation in which being is power.

ARISTOTLE

I had hoped to go more thoroughly into Aristotle's criticism of the Platonic method of division, but space prevents me from more than touching upon what Aristotle has said. We have already touched upon several of the important texts regarding the later Platonic metaphysics and have seen that this is quite clearly the metaphysical structuring of the real implied by the method of division. The importance of the mathematical interpretation of Plato is clear in Aristotle, for

> since the forms are the causes of everything else, he supposed that their elements are the elements of all things. Accordingly the material principle is the "Great and Small," and essence or formal principle is the One, since the numbers are derived from the "Great and Small" by participation in the One.[78]

Plato is Pythagorean in making the One a substance and in making numbers the causes of being, but: "it is peculiar to him to posit a duality instead of a single Unlimited, and to make the Unlimited consist of the 'Great and Small'."[79] Plato made the numbers distinct from the sensible world which he continued to view as a nonsubstantial flux. "His distinction of the One and the numbers from ordinary things . . . and his introduction of the Forms were due to his investigation of logic . . ."[80] Apparently Plato moved from the given of knowledge of ethical ideals and of mathematics to the theory of Forms and numbers. Aristotle's statement on Plato's methodology confirms our analysis of Plato's movement from epistemology to a metaphysics of univocal and separate Forms and numbers. Aristotle confirms also the function of nonbeing in accounting for false judgment and for the irrational in being.

> This thinker means by the not-being which together with Being makes existing things a plurality, falsity and everything of this nature; and for this reason also it was said that we must

> assume something which is false, just as geometricians assume that a line is a foot long when it is not.[81]

Nonbeing is the principle that makes existing things a plurality, since nonbeing is the principle of relation; for, though each Form in its essence is only what it is—a unit—through its relative nonbeing or otherness it can be differentiated from the others such that a plurality is possible. Nonbeing, moreover, can never be fully known, since all the relations of any Form can never be expressed, just as no geometrical figure can be perfectly measured. The Platonists posited nonbeing as the relative without investigating why there are many kinds of relations.[82] The indeterminate dyad is composed of contraries which, according to Aristotle, cannot be first principles.[83] Aristotle also makes the revealing statement that Plato

> was not far wrong in saying that the Sophist spends his time in the study of unreality. But that it is not even possible for there to be a science of the accidental will be apparent if we try to see what the accidental really is.[84]

The accidental even for Aristotle is close to nonbeing.

The Aristotelian critique of division is found in the *Prior* and *Posterior Analytics* and in the first book *On the Parts of Animals*.[85] The first text follows a treatment of the syllogism and indicates Aristotle's determination to prevent any confusion of demonstration and division.[86] Division is assumed to be thought of as a kind of demonstration; Aristotle shows that it is at best a feeble syllogism. The second text is devoted to showing that "the same thing cannot be the object of both definition and demonstration."[87] He concludes that division provides neither definition nor demonstration, though it may produce knowledge in some other way as does induction. Division as a means of defining assumes the first genus and at each step of the division assumes the choice of one side of the dichotomy.

[81] *Ibid.*, 1089 a 20-24.
[82] *Ibid.*, 1089 b 4-9.
[83] *Ibid.*, 1087 b 5-10.
[84] *Ibid.*, 1064 b 29-33.
[85] *Prior Analytics* 46 a 31—46 b 37; *Posterior Analytics* 91 b 11—92 a 5; *On the Parts of Animals* 642 b 5—644 b 22.
[86] *Prior Analytics* 46 a 31—46 b 37.
[87] Harold Cherniss, *Aristotle's Criticism of Plato and the Academy* (Baltimore, 1944), p. 31.
[88] *Posterior Analytics* 92 a 3-4.
[89] *Metaphys.* 1037 b 8-14 and 24-27.
[90] *Ibid.*, 1045 a 23-35.
[91] *On the Parts of Animals* 642 b 20-26.

Moreover, the essential nature of anything is a unity, and division does not yield a unity of definition.[88] In the Aristotelian metaphysics of matter and form the unity of the definition mirrors the unity of substance;[89] for every definition is drawn partly from the matter and partly from the form.[90] Plato cannot achieve a unity of definition, since for him animal and biped are unities in themselves and not related as potency and act. Consequently, the Aristotelian definition is complete with the proximate genus and a single difference, whereas the Platonic definition requires mention of all the genera and species from the highest genus to the last division. Furthermore, division often leads to a dichotomy into a form and its privation, as horned and hornless; since there are no forms of privations, the privative is not further divisible.[91]

Aristotle found substantial being in the sensible world and employed the doctrine of act and potency in his analysis of being. He emphasizes the unity of substance and the corresponding unity of the definition. This all depends upon some application of analogy and denies the existence of a generic unity distinct from the species, which Plato held as a fundamental argument for his position. Plato began with the nonsubstantial flux of the material world and the given of universal and scientific knowledge, which led to the postulation of existing Forms and numbers. A lack, or rather the rejection, of analogy and the necessity of a related world of intelligibles led him to a radical revision of his earlier dialectic of essence, which resulted in the new dialectic of collection and division—a dialectic of otherness and nonbeing and in a nonessential and relational type of knowledge. This new dialectic, however, necessitated radical changes in metaphysics—the introduction of nonbeing, otherness, the unlimited, or the indeterminate dyad of the great and small. Plato has constructed a dialectic and a metaphysics of univocal genera and species, each a one—a unity in itself but related to all reality through its otherness or relative nonbeing. The essence of each of the Forms is a one, but the essence is separate from that of which it is the essence. Plato opted for a univocal mathematical ideal of knowledge and has pursued this ideal to its conclusions that necessitate a metaphysics where the One is above being, where essence is separate, and where nonbeing is and must be—where being is power.

THE STRUCTURE OF WOLFFIAN PHILOSOPHY

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Christian Wolff (1679-1754) was the dominant figure in German philosophy in the first half of the eighteenth century. Taking his cue from the seventeenth-century rationalists, especially Leibniz, Wolff undertook the task of reorganizing and revitalizing the traditional philosophy of the Schools. The philosophical system that resulted from these efforts prepared the intellectual atmosphere of Kant's pre-critical period and also has contributed heavily to the development of contemporary Scholasticism. One of the key elements in this Wolffian legacy is his understanding of what philosophy is. Wolff realized that his position on this question would largely determine the direction and goals of his philosophical speculations. Therefore he prefaced his nine-volume exposition of systematic philosophy with a lengthy discussion of the structure of philosophy. In this paper we will attempt to present an exposition and evaluation of this discussion as it is found in his *Preliminary Discourse* and in the opening sections of the *Ontology*. Following Wolff's own divisions, this paper will treat three topics: the definition of philosophy, the parts of philosophy, and the method of philosophy.

I. The Definition of Philosophy

Wolff's discussion of the nature of philosophy is integrated with his view that natural human knowledge is subjected to a threefold division into history, philosophy, and mathematics. By means of our senses we know things that exist and occur in the material world. Further-

more, the human mind is conscious of the mutations that occur within itself. The knowledge of things that exist and occur in the material world and of the changes that occur in the mind is called history.[1] To put it another way, history is knowledge of the fact, whether that fact be discovered in the mind or in the material world. Moreover, anything that exists or occurs must have a reason why it exists or occurs. To attempt to uncover this reason in to go beyond history into philosophy. Hence Wolff defines philosophy as the knowledge of the reason of those things that exist or occur.[2] History is knowledge of the fact; philosophy is knowledge of the reason of the fact. Finally, whatever is finite has a determinate quantity, which can be seen from the fact that insofar as a thing is finite it can be increased or decreased.[3] Knowledge of the quantity of things is called mathematics. Thus for Wolff human knowledge is either historical, if it deals with the bare fact; or philosophical, if it deals with the reason of the fact; or mathematical, if it deals with the quantity of things.

In the above definition of philosophy, the main problem, of course, is to determine exactly what Wolff means by "the reason of the fact." He himself gives us a detailed answer to this problem in terms of his doctrine on the principle of sufficient reason and its distinction from the principle of contradiction.

The first principle in philosophy is the principle of contradiction. This principle is grounded on direct and indubitable experience. For we find that the nature of the mind is such that when it judges that something is, it cannot simultaneously judge that the same thing is not.[4] To maintain the opposite would be to destroy all meaning in the judgment. Irrespective of whether or not any particular judgment is true, it cannot include its opposite, for then the judgment would be a nonsense statement. It is also clear why this principle must be

[1]Christian Wolff, *Discursus Praeliminaris de Philosophia in Genere*, No. 3 (editio novissima; Veronae, apud Haeredes Marci Moroni, 1779). In this paper all references to Wolff will be taken from this Verona edition of 1779.

[2]*Ibid.*, No. 6.

[3]*Ibid.*, No. 13.

[4]*Philosophia Prima sive Ontologia*, No. 27.

[5]*Ibid.*, No. 286.

[6]"Quoniam esse vel non esse considerari debet instar alicuius praedicati B, quod ipsi A tribuitur, ut adeo propositio singularis, A vel est vel non est, sub hac formula generali omnium singularium, A est B, contineatur, quod A sit B, hoc est, quod A vel sit vel non sit, admittimus tanquam verum vi principii contradictionis, atque adeo propositio, quodlibet est vel non est, tanquam corollarium sub principio contradictionis continetur" (*ibid.*, No. 54).

first in the development of philosophy. Since it governs the meaning content of every statement, the principle of contradiction is presupposed in all discussion.

The principle of contradiction applies to concepts as well as to judgments. If the notes constituting a concept are mutually consistent, then the concept is a genuine concept which represents a possible. On the other hand, if two conceptual notes are mutually repugnant, then they cannot be united into a genuine concept, for such a combination would issue in an impossibility. Hence the principle of contradiction is the criterion for distinguishing the possible from the impossible. As such, it could also be called the law of internal consistency which governs the world of the possibles. This law applies not only to the human mind but also to the divine mind. The ideas produced by divine reason must have meaning, and as such they must be internally consistent. Hence the myriad of possibles in the divine mind is not due to the caprice of divine will, as Descartes would have it. Rather, they are governed by the law of divine reason, which is the principle of contradiction. And from this principle the possibles derive necessity. For if the possibles are so determined by divine reason, then what is possible is necessarily possible.[5] As we shall see, this doctrine of the necessity of the possibles plays a major role in Wolff's theory of science.

The principle of the excluded middle is contained under the principle of contradiction as a corollary. For in an existential judgment the "to be" ought to be considered as a predicate of the subject.[6] And if we judge that *A* is, then by the force of the principle of contradiction we cannot simultaneously judge that *A* is not. In other words "to be" and "not to be" are mutually contradictory predicates that cannot be simultaneously attributed to the same subject. Hence anything either is or is not. This is the principle of the excluded middle.

The stage is now set for the introduction of the notion of sufficient reason. Everything either is or is not; that is, any one thing belongs either to the world of possibles or to the world of actuals. If the former, it is an internally consistent object governed by, and intelligible through, the principle of contradiction. But why is it that some possibles are actual? The principle of contradiction alone is not

adequate to explain this. The mere internal consistency of a possible does not confer actuality upon it. Otherwise all possibles would be actual. Something further is needed. The adequate understanding of the actual goes beyond the principle of contradiction to include some sort of explanation why that possible rather than some other possible is actual. This further explanation is the sufficient reason. Wolff's definition of the principle of sufficient reason is significant. "There is nothing without a sufficient reason why it is rather than is not."[7] The principle of sufficient reason states that there must be an intelligible explanation of the actuality of the actual, as distinct from the principle of contradiction, which states that there must be internal consistency in the possibility of the possible.

Now just what is it that constitutes the sufficient reason in any given case? In order to answer this question we must turn to Wolff's outline of the basic elements in being. Whatever is in a being is either an *essentiale*, an attribute, or a mode. The *essentialia* are the elements that constitute the essence. These *essentialia* must satisfy two requirements.[8] First, they cannot be mutually repugnant; that is, they must satisfy the principle of contradiction so that the essence formed by them is a possible essence rather than an impossibility. Secondly, the *essentialia* are not determined by each other or by anything prior. As such they are the first elements in being and require no explanation in terms of anything prior. In short, these are the pure possibles or essences that are governed only by the principle of contradiction.

The attributes are also defined in terms of two requirements.[9] First, the attributes must be mutually consistent with each other and with the *essentialia*; or, in other words, the attributes must not violate the principle of contradiction. Secondly, the attributes are determined by the *essentialia* and must be constantly united with them. Because of this second point, the attributes must find their adequate explanation in the *essentialia*. Hence the attributes are related to the *essentialia* as to their sufficient reason, and an understanding of them in terms of the principle of contradiction alone is not adequate. This, then, is the

[7]"Propositio, quod nil sit sine ratione sufficiente, cur potius sit, quam non sit, dicitur principium rationis sufficientis" (*ibid.*, No. 71).

[8]"Quae in ente sibi mutuo non repugnant, nec tamen per se invicem determinantur, essentialia appellantur, atque essentiam entis constituunt" (*ibid.*, No. 143).

[9]*Ibid.*, Nos. 145-46.

[10]*Ibid.*, No. 147.

[11]*Ibid.*, No. 160.

first instance of the use of the principle of sufficient reason. Attributes are present in a being because they are determined to be present by the previously given structure of the essence.

The modes, like the attributes and the *essentialia*, must conform to the principle of contradiction. Hence the modes of a being must be mutually consistent with themselves and with the prior structure of the attributes and the *essentialia*. Unlike the attributes, however, the modes are not determined by the *essentialia;* and thus they need not be constantly, but only contingently, present in a being.[10] Now, the modes are obviously not primary but derived elements in a being. Hence the question arises as to what is the sufficient reason for the modes. In answer to this question a distinction must be made.[11] The sufficient reason why a mode can be present in a being is contained in the *essentialia*. But the sufficient reason why a mode actually is present is contained either in the preceding modes or in some being other than the one in which it is present. This ultimately reduces, of course, to locating the sufficient reason for the actual presence of modes in some being external to the being in which the modes are actually present. Thus there are both internal and external sufficient reasons.

Now, we have already pointed out that for Wolff whatever is present in a being is either an *essentiale*, an attribute, or a mode. This division is exhaustive. We have also seen that the *essentialia* require no sufficient reason since they are primary underived elements of pure essence. Only the attributes and modes require a sufficient reason. Hence a sufficient reason can only be one of two things. It is either the *essentialia*, which are the sufficient reason why attributes are present and why modes can be present; or else it is an external being, which is the sufficient reason for the actual presence of modes. Wolff's definition of philosophy should now carry a more exact meaning for us. Philosophy as knowledge of the reason of the fact, is a knowledge of the sufficient reason that determines that one possible is actual rather than another. This sufficient reason is either the internal constitution of the essence or an external being.

In reviewing the above distinction between *essentialia*, attributes, and modes, an interesting question comes to mind. Where does

existence belong? Since Wolff repeatedly asserts that this threefold division of being is exhaustive, we cannot say that existence is a fourth and unique type of determination in being. What, then, is existence for Wolff? In God, existence is an attribute and hence is necessarily determined by, and is constantly present to, the divine essence. Since an attribute is related to an essence as to its sufficient reason, God's essence is the sufficient reason for His existence; and thus the essence of God must overflow into actual existence. Like all the rationalists of the seventeenth and early eighteenth centuries, Wolff looks with approval on the ontological approach to the proof of the existence of God. God enjoys the unique privilege of existing merely because He is possible.

In the creature, however, existence cannot be an attribute. For creatures are subject to change and can come into existence and go out of existence. In such beings existence must be a mode. So understood, existence is merely an accidental adjunct to the real being or essence of the creature. To put it another way, existence in the creature must be distinct from its possibility, since mere possibility is not sufficient for its existence. And since philosophy is the science of the possible, existence must be excluded from philosophy. Because of this, all of the parts of philosophy must be defined by Wolff as knowledge of essences or possibles. Existential knowledge is historical knowledge of the fact. Philosophical knowledge of the reason of the fact is nonexistential. Even causality is understood as an intelligible reason or explanation rather than an existential event.[12]

With the above distinctions in mind, we can now proceed to Wolff's second and more explicit definition of philosophy. "Philosophy is the science of the possibles insofar as they can be."[13] Each term in this definition is pregnant with meaning.

First of all, philosophy is a science. By this Wolff means that philosophy is a habit of demonstration or inference that must begin from certain and immutable principles and proceed to its conclusions through legitimate sequence.[14] As we shall see in detail later on, the method of philosophy as a science must be rigorously deductive in the

[12] *Ibid.*, No. 883.
[13] *Discursus Praeliminaris de Philosophia in Genere*, No. 29.
[14] *Ibid.*, No. 30.
[15] *Philosophia Prima sive Ontologica*, No. 94.
[16] *Ibid.*, No. 97.

mathematic sense. Wolff intends to include this methodological requirement in his definition of philosophy.

Secondly, philosophy is defined as a knowledge of the possible rather than the actual. The reason for this should now be clear. The existence of a created being is a mode, and hence, as divorced from its possibility, does not contain the necessity which is required for the scientific proposition. The possibles, however, are necessarily possible as dictated by divine reason. Hence philosophy derives its necessity from the necessity of the possibles. Wolff explicitly says that all direct demonstrations depend on the principle that the possible can be concluded from the possible.[15] And all indirect demonstrations depend on the principle that that is impossible from which an impossibility follows.[16] All demonstrations are reduced to the notions of possibility and impossibility. What has happened to existential demonstration?

Finally, it is most significant that philosophy is defined as a knowledge of the possibles *insofar as they can be.* Several distinctions are implied here. Note that Wolff does not say "insofar as they are possible." The possibility of the possible is governed by the principle of contradiction alone and not by the principle of sufficient reason. Philosophy is not simply an exercise in testing the internal consistency of concepts. Although this must be presupposed, philosophy as a knowledge of the reason of things is properly guided by the principle of sufficient reason rather than only by the principle of contradiction. Also note that he does not say "insofar as they are" but rather "insofar as they can be." For the reasons given above, actual existence is not susceptible to scientific treatment. Rather, philosophy must limit itself to a knowledge of the possibles in terms of their conditions or possibilities for existence. Philosophy is the science of the possible as existable. In other words, by the reason of the fact Wolff means a purely conceptualistic explanation in terms of essences and possibilities.

We began this section by outlining Wolff's distinction between history, philosophy, and mathematics. The position of philosophy as intermediate between history and mathematics can now be understood. Philosophy is dependent upon both history and mathematics, but in

different ways. History provides the starting points of philosophical knowledge, for experience reveals to us those things from which the reason of other things can be given. A careful examination of historical knowledge provides the certain and immutable principles of philosophy.[17] History must precede, and ought to be constantly conjoined with, philosophy. On the other hand, philosophy acquires completeness of certitude by using the same methods of rigorous deductive argumentation that have proven so fruitful in mathematics. As Wolff says, "Mathematics completes the evidence" (*evidentiam autem complet mathematica*).[18] He does not mean here that mathematics supplies the principles of philosophy. Rather, deductive mathematical method is the tool the philosopher must use in order to organize and understand his experience philosophically.

II. The Parts of Philosophy

The term "philosophy," which Wolff has just defined for us, is a very general expression that includes a large number of quite distinct philosophical disciplines. These various parts of philosophy are distinguished from one another on the basis of the subject-matter under consideration. One philosophical science differs from another only in terms of what is known and not in terms of how it is known. In other words, this is strictly a material-object division of philosophy. It is interesting to note that there is no mention made of the traditional material-object-formal-object method of defining the parts of philosophy. In a sense one could say, however, that all of the parts of philosophy have for Wolff the same formal object; namely, knowledge of the possibles insofar as they can be. As we shall see, Wolff includes this latter element in defining the parts of philosophy.

Wolff points out that this method of distinguishing the various parts of philosophy has two significant consequences. First, there is no theoretical limit to the number of the parts of philosophy. New parts and new subdivisions of former parts can always be introduced as new areas of subject-matter come to light.[19] Indeed, Wolff himself has suggested several additions to earlier delineations of the parts of philosophy. Secondly, if the parts of philosophy differ from one another

[17] *Discursus Praeliminaris de Philosophia in Genere*, No. 34.
[18] *Ibid.*, No. 35.
[19] *Ibid.*, No. 86.
[20] *Ibid.*, No. 87.
[21] *Ibid.*, No. 56.

only in terms of their subject-matter, then it follows that the same method can be used in all the branches of philosophy. As we shall see, this is the deductive method perfected by the mathematicians. Furthermore, the various parts of philosophy ought to be organized into a consecutive series in which the earlier parts supply the principles for the beginning of the later parts.[20]

Granting this subject-matter method of distinguishing the parts of philosophy, the next problem is to designate the various objects of human knowledge. Wolff suggests a threefold division. The objects of our knowledge are God, human souls, and material bodies. This division is exhaustive, and hence there can be no parts of philosophy outside of these three general areas.[21] Wolff points out that he does not deny the existence of finite immaterial beings or angels. But since we know of such beings only through Scripture, they cannot be the subject of our natural philosophical knowledge.

Corresponding to the above distinctions are the first three parts of philosophy; namely, natural theology, psychology, and physics. Natural theology is defined as the science of those things that are possible through God. Psychology is the science of those things that are possible through the human soul. Physics is the science of those things that are possible through material bodies. It is interesting to note here how Wolff observes the requirements of his general definition of philosophy in defining these first three parts of philosophy. They are all described as sciences of the possible.

Besides these three sciences, there are two further parts of theoretical philosophy. Ontology, or first philosophy, studies being in general and the general affections of beings. Such a science is possible because there are some things that are common to all beings. Secondly, the world in which we live is not the only possible world that might have been created. Hence it is possible for us to contemplate those things that are common to the existing world and to any other possible world. The part of philosophy that investigates the world in general is called general or transcendental cosmology.

Thus there are five parts of theoretical philosophy for Wolff; namely, natural theology, psychology, physics, ontology, and general cosmology. Wolff continues his discussion by suggesting further

combinations and subdivisions. Psychology and natural theology have a common element, in that they both study spiritual being. Therefore these two parts of theoretical philosophy can be called *pneumatica*, which means "the science of spirits." The term "metaphysics," on the other hand, is a common name used to refer to the combination of ontology, general cosmology, and *pneumatica*. Hence Wolff defines metaphysics as the science of being, of the world in general, and of spirits. *Pneumatica* and metaphysics are presented by Wolff as sciences that are compounded of other less extensive sciences. Such a procedure seems quite unusual unless one recalls that Wolff distinguishes the parts of philosophy strictly in terms of the subject-matter under investigation. According to this method, there could well be parts of philosophy which are subdivisions of other more general parts.

It is interesting to note in passing that the expressions "general metaphysics" and "special metaphysics," which are usually attributed to Wolff, do not appear in his formal discussion of the division of the sciences. It is easy enough to see, however, how this distinction could be read into Wolff's position. Ontology, as a part of metaphysics, studies the general properties of being and hence could be considered general metaphysics. On the other hand, natural theology, psychology, and general cosmology, as parts of metaphysics, study the properties of special types of beings and hence could be called special metaphysics.

The remaining part of theoretical philosophy—namely, physics—is subdivided by Wolff into a considerable number of more specialized sciences. These parts of physics and their proper subject-matters are as follows: general physics (general affections of bodies), cosmology (structure of the given world), *meteorologia* (meteors), *oryctologia* (minerals), *hydrologia* (water), *phytologia* (plants), and *physiologia* (animated bodies). The division here is obviously made in terms of the subject-matter studied; and further divisions and subdivisions are quite possible as more and more is discovered about the various types of bodies in the world. It should also be noted that cosmology as a part of physics is not the same as general or transcendental cosmology. The former studies how the given world is composed from the various types of bodies existing in it. The latter studies the requirements and

properties of world in general, whether it be this world or any other possible world.

Two further subdivisions should also be mentioned here. The derivation of the principles of both physics and psychology from experience is often very difficult and therefore requires special attention. Hence each of these sciences ought to have appended to it a special experimental discipline whose purpose is to establish its principles. Thus the following distinctions arise. Experimental physics is the science of establishing by experimentation the principles from which the reason can be given of those things that occur in nature. Dogmatic physics, as defined above, is the science of those things that are possible through material bodies. On the other hand, empirical psychology is the science of establishing through experience the principles from which the reason can be given of those things that occur in the human soul. Rational psychology is the science of those things that are possible through the human soul. In both of these cases the experimental discipline ought to be developed first because it supplies the principles for its counterpart.

Over and above the parts of theoretical philosophy that we have just outlined, there is another group of philosophical sciences that deal with human actions. Using again the subject-matter method of division, Wolff divides this area of philosophy into the sciences that deal with the cognitive, the appetitive, and the productive actions of man.

In the first group are contained logic and *ars inveniendi*. Logic is defined as the science of directing the cognitive faculty to the knowledge of truth. *Ars inveniendi* is the science of investigating latent truth.

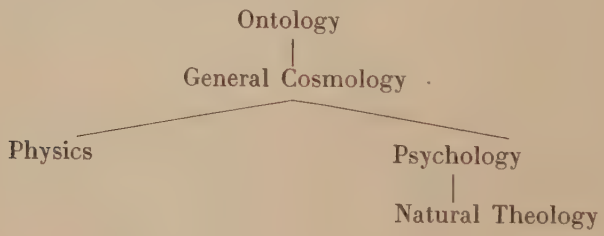
The sciences dealing with man's appetitive actions constitute what Wolff calls practical philosophy, which is defined as the science of directing the appetitive faculty to the choosing of good and the avoiding of evil. The five parts of practical philosophy are as follows: *jus naturae* (knowledge of good and evil actions), universal practical philosophy (general theorems and maxims), ethics (individual morality), politics (civil society), and *oeconomica* (lesser societies).

The science of man's productive actions is called technology. Sub-

divisions here are grammatical philosophy, rhetorical philosophy, poetical philosophy, and so on.

Finally, natural things can be understood in terms of their final cause as well as their efficient cause. That part of naural philosophy which explains things in terms of their end is called teleology.

As was mentioned above, one of the consequences of Wolff's distinction of the parts of philosophy in terms of their subject-matter is that the parts of philosophy ought to be organized in a consecutive series. The order in this series is dictated by the principle that those parts must come first which provide the principles for the other parts. Hence, Wolff presents us with a deductive hierarchy of the philosophical sciences. For purposes of study, logic must come first. For the proofs in all the branches of philosophy depend on an understanding of logical procedures. In the order of demonstration, however, ontology and psychology must precede logic, since they provide the theoretical justification for the laws of logic. Wolff admits that there is a certain circularity here. But for practical purposes he gives precedence to logic. In the theoretical parts of philosophy, ontology comes first, followed by general cosmology, then by either physics or psychology. Natural theology must come after psychology. Diagrammatically this can be represented as follows:



[22] *Ibid.*, No. 115.

[23] *Ibid.*, Nos. 132-33.

Practical philosophy must come after metaphysics (ontology, psychology, and natural theology.) Within practical philosophy the order of the part is:

Jus Naturae
|
Universal Practical Philosophy
|
Ethics
|
Oeconomica
|
Politics

Once gain, the guilding principle for determining this hierarchy of the sciences is that each subordinate science derives its principles from the higher sciences.

III. The Method of Philosophy

The order that one ought to use in treating the content of philosophy is what Wolff means by philosophical method.[22] This order is described by Wolff as being completely deductive, satisfying all of the usual requirements for syllogistic certitude. This can be clearly seen from even a cursory reading of many of Wolff's writings, which bear a close resemblance in method to Euclid's *Elements* and Spinoza's *Ethics*. Propositions in the body of Wolff's treatises are proved by frequent references back to previously proved propositions that serve as premises. Ultimately this process must begin, if certitude is to be present, with absolutely first self-evident propositions and definitions. Wolff's discussion of philosophical method is guided completely by the demands imposed by his avowal of deductive order in philosophy.

The first and most important of these demands is that in every part of philosophy that order must be maintained in which those things come first through which other things are understood and demonstrated. This principle is referred to by Wolff as the supreme law of philosophical method.[23] The various other methodological rules which he gives are merely elucidations of this fundamental principle. Anything that disagrees with this principle must be banished from philosophy as leading to confusion and possible error. Several more

specialized rules of method are given in order to safeguard this supreme law of method.[24] First, no terms can be introduced into philosophical discussion unless they are accurately defined. Before one can settle the question of the truth of a proposition, there must be agreement as to the meaning of the terms. Without this there can be no agreement as to what constitutes an adequate proof. Secondly, no proposition can be admitted unless it is sufficiently demonstrated. Otherwise the truth value of subsequent conclusions is in jeopardy, which is contrary to the requirements of scientific certitude. Thirdly, the predicates of all propositions must be accurately determined. By this Wolff means that not only must the meaning of the predicate term be clearly stated but that also its relation to the subject must be made explicit. If a predicate belongs to a subject only under certain conditions, then these conditions must be spelled out lest we attribute that predicate to its subject under all conditions and thus fall into error.

A second demand imposed by the deductive method is the distinction between demonstrable and indemonstrable propositions. If genuine certitude is to be present in a deductive series, there cannot be an endless ascent in prior premises. Or, as Aristotle had said centuries earlier, there must be some propositions which are always premises and never conclusions in a deduction. Hence Wolff distinguishes between indemonstrable propositions, in which it is apparent from a knowledge of the terms that the predicate agrees or disagrees with the subject, and demonstrable propositions, in which such a relationship is not yet seen.[25] Two things are worthy of note here. In the indemonstrable proposition the relation between the subject and the predicate is seen by an analysis of the terms rather than by an inductive appeal to experience. This is a typical rationalist procedure, which involves the danger of cutting the starting-points of philosophy off from the world of real experience. Or, to put it another way, such a proposition must have logical necessity. But does it also possess metaphysical necessity? Secondly, Wolff seems to be saying here that the relation of the predicate to the subject in the demonstrable proposition is also analytic. In fact, the reason why a demonstrable proposition is demonstrable is that there are one or more intermediaries

[24] *Ibid.*, No. 139.
[25] *Philosophia Rationalis sive Logica*, No. 262.
[26] *Discursus Praeliminaris de Philosophia in Genere*, No. 126.
[27] *Ibid.*, No. 128.
[28] *Ibid.*, No. 139.

between its subject and predicate that must be made explicit by deduction before the truth of the proposition can be seen. Hence deduction is really a series of analytic intuitions in which each term is evolved out of the content of its immediate predecessor. This interpretation is supported by Wolff's constant procedure of developing his philosophy by drawing out new predicates by analyzing the meaning-content of a previous subject term. In short, Wolffian philosophy progresses by an analysis of concepts rather than by an induction from experience.

One would think that in advocating the rigors of the deductive method Wolff would find no place in philosophy for reasoning at the level of probabilities. Such, however, is not the case. An important role in Wolffian method is exercised by the philosophical hypothesis. This latter is defined as a proposition which is assumed because through it a reason for a certain phenomenon can be given, although it has not been shown that this is the true reason.[26] Such hypotheses are useful tools in philosophy insofar as they prepare the mind for the discovery of the true reason. If deductions from a hypothesis are contrary to experience or to previously proven propositions, then the hypothesis must be rejected. On the other hand, if such deductions are consistent with experience and previously proved propositions, then the probability of the hypothesis is increased. This process alone, however, never can establish the hypothesis as an absolute certitude. Hence Wolff warns us that a hypothesis cannot function as a genuine deductive principle in the proof of propositions that are to be admitted into philosophy as dogma.

In conclusion, one cannot fail to point out the similarity between the structure of Wolffian philosophy and the structure of mathematics. Wolff was a professor of mathematics and this background did not desert him when he directed his energies to the field of philosophy. Indeed, in one very significant text he explicitly states that philosophical method and mathematical method are identical.[28] However, this identity does not come about by the philosopher simply transplanting the method of the mathematician into his own field. Rather, the philosopher and the mathematician both use the same method because this method is dictated by the requirements for certitude. Or, as Wolff prefers to say, the rules of method are deduced from the

notion of certitude. This casts a new light on the whole problem. Not only do philosophy and mathematics use the same method, but this is the only possible method for establishing certitude in any of the areas of demonstrative knowledge. This one universal method is called, of course, the scientific method. The persistent desire of the seventeenth-century rationalists to have one ubiquitous method for the discovery of all certitude continues unabated in the mind of Christian Wolff.

CHARGES OF PHILOSOPHICAL PLAGIARISM IN GREEK ANTIQUITY

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In Greek antiquity, plagiarism—that is, the stealing, borrowing, purloining, copying, using, or passing off as one's own the ideas, doctrines, intellectual achievements, or literary productions of others without giving due credit—was commonly referred to as κλοπή, or plain theft.[1]

I.

Early Greek authors, especially the poets or "minstrels" of the heroic and postheroic ages, did not recognize and probably did not even suspect the existence of "intellectual property." Hence, as a rule, they completely failed to acknowledge their source or sources of information. At the same time, they did not hesitate in the least to use freely the literary, artistic, or "scientific" achievements of others. Down to the fifth century before Christ, the major literary works of the past were still considered to be the "common possession" of all. "Aeschylus was one of the great philosophers . . . who maintained that his tragedies were large cuts taken from Homer's opulent dinners."[2] Essentially the same general attitude towards "sources" may be observed among early "scientists," historians (or chroniclers), and philosophers. Apparently the first author who in a way acknowledged his indebtedness to others seems to have been the Sophist Hippias of Elis.

> Of what I have to say, some has perhaps already been said by Orpheus, some by Musaeus . . . some by Homer, some by Hesiod, some again by other poets, and some in the prose writings of the Greeks or the Barbarians. I have extracted from them and put together what was most important for, and in harmony with, my particular plan in order to compose my novel and many-sided work.[3]

Chrysippus, too, is credited with having cited "most of his au-

[1]Diogenes Laertius (8.54) once uses the term λογοκλοπία. But Porphyry (in Eusebius, *Praeparatio Evangelica* 10.3.1.-26) and Clement of Alexandria (*Stromateis* 5.14.89-139; 6. chaps. 1-6), our two main authorities on this subject, as a rule employ the expression κλοπὴ or κλέπτειν. See also Athenaeus, *Deipnosophistae* 15.673E; Aristides, *Oratio* 3.1; Diogenes Laertius 5.92, *et passim*. The verb ὑφαιρεῖσθαι was sometimes used as a synonym for κλέπτειν (Diogenes Laertius 2.57; 9134; Clement of Alexandria, *Stromateis* 5.14.91; 6.2.4, *et passim*). Other synonyms were ἀποσυλάω (Eusebius, *Praeparatio Evangelica* 10.1.7), σπάω or ἀποσπάω (Clement of Alexandria, *Stromateis* 5.14.130 and 6.2.27; Themistius, *Oratio* 21), σκευωρεῖσθαι (Diogenes Laertius 2.61; Clement of Alexandria, *Stromateis* 6.2.27), ὠφελεισθαι (Hermogenes, Περί ἰδεῶν 2.423), σφετερίζεσθαι (Diodorus Siculus 4.66.6; Athenaeus, *Deipnosophistae* 15.673 ff.; Clement of Alexandria, *Stromateis* 6.2.27; 6.2.4; 6.4.35), ἰδιοποιεῖσθαι or ἐξιδιοποιεῖσθαι (Athenaeus, *Deipnosophistae* 15.673E), ἐπιφέρειν (*ibid.*, 3.84B), ἐκφέρειν (Clement of Alexandria, *Stromateis* 6.2.25; 6.2.26); ὑποβάλλεσθαι (Strabo 17.790; Diogenes Laertius 2.60; Aristophanes, *Birds* 750), λαμβάνειν παρὰ or ἀπό τινος (very frequent in Clement of Alexandria, *Stromateis*), ἐκλαμβάνειν, παραλαμβάνειν (Clement of Alexandria, *Stromateis* 5.14.91), ἀναλαμβάνειν, μεταγράφειν (*ibid.*, 6.2.5), and ἀντιγράφειν (Diogenes Laertius 10.7). Frequently such essentially harmless sounding terms as μεταποιειν (Clement of Alexandria, *Stromateis* 6.2.6), μεταφράζειν (*ibid.*), μεταβάλλειν (*ibid.*, 6.2.26), μεταλάττω (*ibid.*), μιμεῖσθαι (*ibid.*, 6.2.8 and 6.3.28), παραφράζειν (*ibid.*, 5.11.132 and 6.2.11), and παρισάσθαι (*ibid.*, 6.2.12) are employed to denote plagiarizing.

[2]Athenaeus, *Deipnosophistae* 8.347E.

[3]Diels-Kranz, *Die Fragmente der Vorsokratiker* (5th edit.): Hippias, frag. 6 (Vol. 2, p. 331). Clement of Alexandria, from whom the fragment is taken, uses this frank admission of Hippias to charge him with plagiarism: ". . . to show the propensity of the Greeks for plagiarism in expressions and doctrines, permit us to adduce the express testimony of Hippias . . ." (*Stromateis* 6.2.15).

[4]Diogenes Laertius 7.180. (See also nn. 78 and 79, and the text thereto.)

[5]*Ibid.*, 9.42.

[6]Herodotus 2.143 and 6.137. Herodotus, as a matter of fact, argues here against Hecataeus of Miletus and his reports. But in many other instances where he definitely derives his information from other authorities, including from Hecataeus, he refuses to give due credit to his sources.

[7]This policy subsequently exposed Herodotus to much criticism and even to the charge of plagiarism.

[8]Hence these standards did not really apply to primarily artistic, poetic, or philosophical productions.

[9]Pliny the Elder, *Naturalis Historia*, prooemium 21-23.

[10]From the remarks of Pliny it would follow that this duty or standard did not apply to essentially literary works. Philosophy apparently could be classified both as a literary or scientific endeavor.

thorities";[4] and of Democritus it was said that he admitted quoting from Parmenides, Zeno (the Eleatic), and Protagoras of Abdera.[5]

The first of the Greek historians to refer to at least some of his sources was probably Herodotus, who twice cites Hecataeus of Miletus,[6] although he repeatedly concedes, without going into details, however, that he relies on, and makes use of, the traditions or the reports of Greeks and barbarians.[7]

Only during late antiquity, it appears, some general but still rather vague standards were established concerning the author's obligation to give proper recognition to his authorities or sources of information. These standards, which might possibly have been motivated by Aristotelian scientism[8] were stated by Pliny as follows:

> You will deem it a proof of my pride that I have prefaced these volumes with the names of my authorities [and sources]. I have done so because it is, in my opinion, a pleasant thing, and one that shows an honorable modesty, to give due credit to those who were the means of one's accomplishments, and not to do as most of the authors to whom I have referred have done. For you must know that when collating my authorities I have found that the most professedly reliable and modern writers have copied the old authors word for word without proper acknowledgment, not in that valorous spirit of Virgil, for the purpose of rivalry, nor with the candor of Cicero who in his *Republic* declares himself a companion of Plato, and who in his *Consolation to his Daughter* stated, "I follow Crantor," and similarly as to Panaetius in his work *De Officiis*—works that you know to be worth having in one's hands every day and even learning by heart. Surely it is the mark of a mean spirit and an unfortunate disposition to prefer being detected as a thief rather than [acknowledging and] repaying a loan . . . especially as interest creates capital.[9]

In brief, the duty to cite sources and authorities apparently exists only in the case of a scientific treatise or perhaps an encyclopedic work intended to collate and transmit scientific information.[10] Failure to comply with this duty, in particular the practice of reciting *verbatim* the doctrines or statements of the ancients without referring to them

directly, is simply theft (*furtum*). But it is not required that the author quote his source or sources in the case of *minutiae*.

Beginning with the fifth and especially the fourth century before Christ, the charge of "philosophical plagiarism" was made with increasing frequency and, it may be added, with mounting recklessness. Democritus, according to the testimony of Favorinus,[11] is said to have insisted concerning Anaxagoras, his alleged teacher, that "his [Anaxagoras's] views on the sun and the moon were not original, but of great antiquity; and that he had simply stolen them [from others]." Thrasyllus, in turn, denounced Democritus for "having

[11]Diogenes Laertius 9.34.

[12]*Ibid.*, 9.38. Diogenes Laertius quotes also Glaucon of Rhegium as having stated that Democritus "was taught by one of the Pythagoreans." And Apollodorus of Cyzicus, according to Diogenes Laertius (9.38), insisted that Democritus "lived with Philolaus," the Pythagorean.

[13]Clement of Alexandria, *Stromateis* 6.2.27.

[14]Diogenes Laertius 8.8. By the authority of Aristoxenus, Diogenes also states (8.8 and 8.21) that Pythagoras had received the most important of his moral doctrines from the Delphic priestess Themistoclea.

[15]*Ibid.*, 8.54. Diogenes continues: "Neanthes reports that down to the time of Philolaus and Empedocles all Pythagoreans [Empedocles, according to this report, was a pupil of Pythagoras (*ibid.*, 8.54)] were admitted to these discussions. But when Empedocles published these discussions in a poem [and probably claimed them as his own original contributions], they [the Pythagoreans] passed a resolution that [these discussions] should not be imparted to any poet" (*ibid.*, 8.55).

[16]*Ibid.*, 8.55.

[17]*Ibid.*, 8.56.

[18]*Ibid.*, 8.70.

[19]Clement of Alexandria, *Stromateis* 6.2.26.

[20]Diogenes Laertius 2.16.

[21]*Ibid.*, 2.18.

[22]Athenaeus, *Deipnosophistae* 14.620D; Diogenes Laertius 8.63. Diogenes quotes this incident on the authority of Favorinus. It appears, however, that Dicaearchus' *Olympic Festival*, as it is recorded by Athenaeus, constitutes the ultimate authority.

[23]Diogenes Laertius 9.15.

[24]Idomeneus of Eretria might have derived this story from Menedemus.

[25]Diogenes Laertius 2.60. See also Athenaeus, *Deipnosophistae* 13.611D. Judging from the remark in Diogenes Laertius (2.62), Aristippus apparently also suspected Aeschines' authorship. Pisistratus of Ephesus, according to Diogenes Laertius 2.61, flatly denied that Aeschines ever wrote any dialogues. Diogenes Laertius continues: "However that may be, of the writings of Aeschines those stamped with a Socratic character are seven." The expression "Socratic character" (Σωκρατικὸν ἦθος) is ambiguous.

[26]Diogenes Laertius 2.61.

[27]*Ibid.*, 2.63.

[28]The list of works ascribed to Antisthenes contains a *Cyrus*, a *Cyrus, or Of Sovereignty* (Diogenes Laertius 6.16), a *Cyrus, or the Beloved*, and a *Cyrus, or the Scout* (*ibid.*, 6.18); a *Greater Heracles, or Of Strength* (*ibid.*, 6.16), a *Heracles or Midas*, and a *Heracles, or Of Wisdom and Strength* (*ibid.*, 6.18); as well as an *Alcibiades* (*ibid.*, 6.18). The dependence of the *Alcibiades* of Aeschines on the *Alcibiades* of Antisthenes is fairly well established. See A.-H. Chroust, *Socrates: Man and Myth, The Two Socratic Apologies of Xenophon* (London: Routledge & Kegan Paul, 1957) pp. 175 ff.

taken all his ideas from Pythagoras [or the Pythagoreans]."[12] Heraclitus of Ephesus[13] and Pythagoras[14] were pointedly accused of having plagiarized Orpheus; and Timaeus insisted that Empedocles "was a pupil of Pythagoras, adding that, having been convicted at that time of stealing his discourses [from Pythagoras] he was, like Plato, excluded from taking part in the discussions of the school [of Pythagoras]."[15] Theophrastus, according to Diogenes Laertius, asserted that Empedocles "imitated Parmenides in his verses, for Parmenides, too, had published his treatise *On Nature* in verse";[16] Hermippus, in the words of Diogenes Laertius, insisted that Empedocles imitated the writings of Xenophanes;[17] and Diodorus of Ephesus maintained that Empedocles emulated Anaximander.[18] Georgias of Leontini was blamed for having stolen from Melesagoras;[19] and Socrates is said to have taken from Archelaus the notion that ethics is a philosophical discipline.[20] It was also suggested that Socrates wrote, or at least helped write, some of the tragedies subsequently published under the name of Euripides who, in turn, refused to acknowledge his indebtedness to Socrates.[21] According to Dicaearchus, Cleomenes (the rhapsodist) recited at Olympia the *Rites of Purification* of Empedocles,[22] although it is not clear from the text whether he did so in the name of Empedocles or in his own name, claiming the *Purifications* for himself. And it was said that Pausanias's works were so similar to those of Heraclitus of Ephesus that he was publicly called "the imitator of Heraclitus."[23]

Menedemus of Eretria, and later also Idomeneus of Lampsacus,[24] maintained that the various dialogues which were circulated under the name of Aeschines of Sphettus in fact were authored by Socrates; after Socrates's death, the story goes on, Xanthippe gave these dialogues to Aeschines, who then claimed their authorship.[25] Perseus, indeed, went so far as to attribute the majority of these dialogues to Pasiphon, a member of the School of Eretria, who inserted them among the works of Aeschines.[26] In addition, this same Aeschines, who also has been called "a close imitator of Gorgias of Leontini,"[27] was charged with having made extensive use of the *Little Cyrus*, the *Lesser Heracles*, and the *Alcibiades* of Antisthenes,[28] without, however, giving the latter any

credit whatever.[29] This might also explain why "Lysias attacked Aeschines in a speech which he entitled *On Dishonesty*."[30] In any event, when Aeschines "was reading one [of these dialogues] at Megara, Aristippus challenged him with the remark, 'Where did you get that, you thief?'"[31]

[29]Diogenes Laertius 2.61.

[30]*Ibid.*, 2.63.

[31]*Ibid.*, 2.62.

[32]Plato himself apparently was plagiarized by Dionysius the Younger, the tyrant of Syracuse and friend of Plato. See Plato (?), *Seventh Epistle* 341AB and *ibid.* 344D-345A. According to this report, Plato had once discussed some philosophical topics in the presence of Dionysius, without however penetrating the subject. Dionysius, it seems, subsequently published a résumé of this discussion under his own name, thus creating the impression that this was his own original philosophy. In his gentle refutation of Dionysius, Plato merely stresses the fact that Dionysius was not, and could not possibly have been, conversant with Plato's ultimate views on this subject. But Plato was not interested in pointing out a plagiarism as such.

[33]Athenaeus, *Deipnosophistae* 11.508C.

[34]Isocrates himself was an implacable enemy of Plato.

[35]Athenaeus, *Deipnosophistae* 11.508CD. This particular charge apparently was contained in a special work or diatribe (διατριβή), the full title of which was probably Καταδρομη τής Πλατωνος διατριβή.

[36]See *infra*.

[37]Clement of Alexandria, *Stromateis* 5.1490; 5.14.92; 5.14.96; 4.14.135. Clement, it seems, insists that "the whole of the Hellenic wisdom was derived (or 'stolen') from the philosophy of the barbarians" (*ibid.* 5.14.141). The barbarians might very well be the peoples of the Near East, including the Jews and the Egyptians. As a matter of fact, the whole of the *Stromateis*, Book VI, chaps. 4 ff., is dedicated to the task of proving that the Greeks drew most of their philosophical teachings from the Egyptians and Indians.

[38]The Homeric passage would be *Iliad* 16.856. Plato himself quotes (and disapproves of) this Homeric passage in *Republic* 386D.

[39]Athenaeus, *Deipnosophistae* 11.508C ff.

[40]Clement of Alexandria, *Stromateis* 6.2.27. Clement adds that Pythagoras derived this doctrine from the Egyptians.

[41]Diogenes Laertius 8.54 and 8.55.

[42]The reference seems to be to Aristotle, *Poetics* 1447 b 10. See also Aristotle, frag. 72 (Rose). Plato himself ascribes the use of the dialogue to Parmenides (*Sophist* 217C). Diogenes Laertius (3.48) claims that Zeno the Eleatic was the inventor of the dialogue, but he also quotes Aristotle (on the authority of Favorinus) as having said that Alexamenus of Styra or Teos was the first to write dialogues. Diogenes Laertius, however, extolls Plato for the beauty, inventiveness, and perfection in using the dialogue form. Even Simon the Shoemaker had been credited with the invention of the Socratic dialogue (Diogenes Laertius 2.123). It is most unlikely that either Zeno or Parmenides ever wrote any dialogues. For Zeno, see Plato, *Parmenides* 127C; Aristotle, *Topics* 170b22; Simplicius, *Adversus Physicos* 139.5. The reference to Parmenides may actually be based on a hilarious confusion of the philosopher Parmenides and the Platonic dialogue *Parmenides*.

[43]Athenaeus, *Deipnosophistae* 11.505BC.

[44]Diogenes Laertius 3.18. This passage would indicate that Plato borrowed the characterizations of the main actors in his dialogues from the *Mimes* of Sophron. Diogenes Laertius continues: "A copy of the *Mimes*, it is said, was actually found under his [Plato's] pillow" (3.18). See also Valerius Maximus 8.7.3. Aristotle, *Poetics* 1447b9 (see also Περὶ ποιητῶν, frag. 61,

Plato himself did not escape the charge of plagiarism:[32]

> If one should go through his [Plato's] *Timaeus* and his *Gorgias* and all other such dialogues . . . one could not admire him for them because one could get all this [information] from other authorities either better or, at least, not worse.[33]

Theopompus of Chios, the disciple of Isocrates,[34] bluntly asserted that "the majority of his [Plato's] dialogues are useless and in error"; that a great many of them are borrowed from the discourses of Aristippus, some even from those of Antisthenes, and the majority from those of Bryson of Heraclea.[35] Clement of Alexandria, a most untrustworthy witness,[36] in a similar vein maintained that according to a well-founded tradition, Plato derived much of his philosophy from the "Barbarians."[37] The allegations that Plato's doctrine of the immortality of the soul was lifted from Homer[38] may go back to Theopompus,[39] while the story that he stole this doctrine from the Pythagoreans is recorded by Clement of Alexandria.[40] Timaeus, in the ninth book of his *Histories*, states that Plato was excluded from the discussions, or philosophical disputations, of the Pythagoreans, because he plagiarized them for his own use;[41] and Pontianus, in his harangue of Plato, contended that Plato

> wrote . . . dialogues, the pattern of which he did not invent himself. Before his time, in fact, Alexamenus of Teos had invented this type of literature, as Nicias of Nicaea and Sotion attest . . . and the most learned Aristotle[42] expressly declares that Alexamenus wrote dialogues before Plato.[43]

Finally, it was also suggested that in his dialogues Plato "drew the characters in the style of . . . [Sophron]."[44]

Aristoxenus, the implacable enemy of Plato and the Platonists, maintained, according to the testimony of Favorinus, that Plato copied

Rose), classifies together the *Mimes* of Sophron, the *Mimes* of Xenarchus, and the dialogues of Plato. But he does not insinuate that Plato's dialogues are dependent on the *Mimes* of Sophron (or those of Xenarchus). There is only one definite reference to Sophron's *Mimes* in Plato's works; namely, *Republic* 451C, where Plato distinguishes between the mimic roles played by men and those roles played by women. Also, the quotations found in *Republic* 607B might have been borrowed from Sophron.

most of his *Republic* from Protagoras's Ἀντιλογικά;[45] and Alcinus, a "historian" and contemporary of Aristoxenus, in his four-volume work entitled Πρὸς Ἀμύνταν asserted that Plato evidently "borrowed heavily from Epicharmus, using his very words."[46] Timon of Phlius, the

[45]Diogenes Laertius 3.37. This allegation apparently was repeated by Favorinus. (See *ibid.*, Laertius 3.57). Favorinus probably drew his information from Aristoxenus.

[46]*Ibid.*, 3.9-10: "Just consider. Plato asserts that the object of the senses is that which never abides in quantity or quality, but is ever in flux and change. . . . But the object of thought is something constant from which nothing is subtracted and to which nothing is added. . . . And, indeed, Epicharmus has expressed himself plainly about the objects of the senses and the objects of thought." Diogenes Laertius continues: "These and similar instances Alcinus notes . . . pointing out the assistance which Plato derived from Epicharmus" (3.17). See also the whole of Diogenes Laertius 3.9-17.

[47]According to Gellius, *Attic Nights* 3.17.4, Plato paid 10,000 *denarii*; according to Hermippus (Diogenes Laertius 8.85), 40 Alexandrian *minae*; and according to Diogenes Laertius 8.15, 100 *minae*. Others, again, say that he was given this book—Philolaus's Περὶ φύσεως—as a present or token of gratitude for having rescued a disciple of Philolaus. Cicero, *De Republica* 1.10.16, writes that Plato received this work as a personal present from Philolaus; and Satyrus (Diogenes Laertius 3.9; 8.15) records that Plato wrote to Dion asking him to purchase three Pythogarean works composed by Philolaus for 100 *minae*. Jamblichus, in his *Vita Pythagorae* 199, maintains that Dion bought this work from the heirs of Philolaus. (See also Diogenes Laertius 8.84). Thus it seems fairly well established that Plato bought the chief work or works of Philolaus the Pythagorean. If this be true, then Clement of Alexandria's allegation that Plato borrowed from the Pythagoreans (or from Pythagoras) is probably correct (*Stromateis* 6.2.27). See also text, *infra*. Diogenes Laertius also mentions a letter of the Pythagorean Archytas, addressed to Plato, in which the former writes that he had been able to get certain philosophical works for Plato, "all of which we have sent on to you."

[48]Gellius, *Attic Nights* 3.17.6. See also Diogenes Laertius 8.85: "He [Philolaus] wrote one book, and it was this book which, according to Hermippus, some authors claimed that Plato, the philosopher, when he went to Sicily to the court of Dionysius, bought from Philolaus' relatives . . . from which also the [Platonic] *Timaeus* was copied." That Plato is not the only ancient philosopher or author charged which having plagiarized Pythagoras or the Pythagoreans might be gathered from Diogenes Laertius 8.54, where Empedocles is suspected by Timaeus of having committed the same crime. See n. 15.

[49]Apparently by Crantor.

[50]In Plato's fragmentary dialogue *Critias*.

[51]Proclus, *Commentarius in Platonis Timaeum* 1.76.2 (ed. Diel).

[52]*Politics*, 1267b22 ff.

[53]Eusebius, *Praeparatio Evangelica* 10.3.24-25. See also n. 104.

[54]This is also one of the reasons why the writings of Plato have become one of the great problems of present-day historical and literary scholarship.

[55]Diogenes Laertius 5.92.

[56]This work is listed as *Of the Age of Homer and Hesiod*, two books, in the catalogue of the works of Heracleides of Pontus (Diogenes Laertius 5.87). A comparison of Plutarch, *Pericles* 27, and Athenaeus. *Deipnosophistae* 12.533E ff., should indicate that the work of Heracleides and that of Chamaeleon are very similar indeed. This then would support the allegation of Chamaeleon.

sillographer, reported that Plato paid a fantastic price[47] for a work of the Pythagoreans, possibly for the Περὶ φύσεως of Philolaus, from which book he copied his *Timaeus* or, at least, part of it.[48] Proclus records that already during Plato's lifetime the latter was charged[49] with having stolen the Atlantis myth and especially the description of the ideal city of Atlantis[50] from the ancient Egyptians.[51] Aristotle, at least by indirection, also seems to suggest that certain ideas advanced by Plato in his *Republic*, including the subdivision of the citizens into guardians, warriors, and husbandmen, might originally have been devised by Hippodamus of Miletus.[52] Porphyry has preserved a report according to which the Peripatetic Prosenes had charged Plato with having made use of his many intellectual predecessors and having in all likelihood borrowed heavily from them. Prosenes also is said to have declared that if more of the pre-Platonic philosophical literature had survived, he could establish and prove the great many literary thefts committed by Plato.[53]

The truth about Plato is that in keeping with the prevailing tradition he was extremely reluctant to reveal by direct reference the many sources and authorities for the doctrines and theories which he advanced. He displayed an equal reluctance to indicate the authorities for the views which he rejects, combats, or ridicules. This pronounced attitude, which practically amounted to a policy, together with the fact that with the exception of his personal followers he apparently was not very popular among his contemporaries or with later generations, soon made him one of the preferred targets for charges of plagiarism.[54]

Heracleides of Pontus likewise was severely criticized by Chamaeleon of Pontus[55] for having plagiarized his, Chamaeleon's, work on Homer and Hesiod.[56] It was also rumored that Xenophon "made Thucydides famous by publishing his *History*, which had remained unknown, and which he [Xenophon] might have appropriated for his own use."[57] It was said of Arcesilaus, the founder of the so-called Middle Academy, that he "was caught copying (or editing) certain works of Crantor. . . .

And some represent him as an imitator of Pyrrho [of Elis]. . . ."[58] Eusebius of Caesarea openly denounced the Neoplatonist Hierocles, the governor of Bithynia and a tenacious antagonist of Christianity,[59] for having copied *verbatim* all his philosophical works from older sources.[60] Athenaeus goes to great length in charging Hephaestion with having plagiarized him extensively:

[57]Diogenes Laertius 2.57. The reference is obviously to Xenophon's *Hellenica*. A comparison of Thucydides' (unfinished) *Peloponnesian War* and Xenophon's *Hellenica* should make it fairly clear that this accusation is probably groundless. But since Xenophon's in a way is a sort of continuation of Thucydides' work, there naturally exists the remote possibility that Xenophon might have rewritten, restyled, and perhaps somewhat reoriented what could originally have been the now "missing" part of Thucydides' *Peloponnesian War*, and that he published it under his own name as part (perhaps the early part) of his *Hellenica*.

[58]Diogenes Laertius 4.32.

[59]This Hierocles might be the anonymous pagan philosopher with whom Macarius, the bishop of Magnesia, had a long and bitter dispute concerning the merits of Christianity. See Macarius, *Apologia* (ed. Blondel). Some scholars maintain, however, that Macarius's opponent was Porphyry and that Macarius used an anonymous excerpt from Porphyry's Κατὰ χριστιανῶν. Aeneas of Gaza, it will be remembered, was a disciple of Hierocles.

[60]*Adversus Hieroclem* 1.369.4 ff. (ed. Kayser).

[61]A Peripatetic philosopher during the time of the Antonines and probably the teacher of Athenaeus. None of Adrastus's original writings have been preserved. Theon of Smyrna, Proclus, Plotinus, Favorinus, Eulogius, Anatolius of Alexandria, and Chalcidius in part were influenced by the teachings of Adrastus. As a matter of fact, he is the vital connecting link between Posidonius (and his all-important *Commentary* to the *Timaeus* of Plato) and Chalcidius.

[62]The reference is to Xenophon, *Memorabilia* 1.6.1.

[63]Athenaeus, *Deipnosophistae* 15.673E ff.

[64]Diogenes Laertius 6.84. Diogenes Laertius (6.98) also reports that "there is current a work of Crates, entitled *Epistles*, which contains excellent philosophy in a style which at times resembles Plato."

[65]Diogenes Laertius 6.100.

[66]Clement of Alexandria, *Stromateis* 6.2.27.

[67]It must seriously be doubted whether Clement of Alexandria had even an inkling of the many and at times desperately difficult problems connected with the origin, nature, and authenticity of some of the works traditionally ascribed to Aristotle. Of late a rather extravagant thesis concerning Aristotle's writings has been advanced by Joseph Zurcher, *Aristoteles' Werk und Geist* (Paderborn, 1952). A short résumé of this book can be found in E. Brady, "The New Aristotle," in the *New Scholasticism*, XXVII (1953), 305-34. According to Zurcher, Aristotle was really a Platonist who borrowed many of his main ideas from Plato. The Aristotelian elements in the writings ascribed to Aristotle are actually by Theophrastus. If Zurcher's thesis were correct, then Clement's allegation might be true, at least in part. There exists no reason, however, why Zurcher's thesis should be accepted. See A.-H. Chroust, "The Composition of Aristotle's Metaphysics," *New Scholasticism*, XXVIII (1954), 58 ff., especially pp. 65-66 and n. 27.

[68]*Stromateis* 5.14.98.

[69]As to the unreliability of Aristobulus, see the text *infra*.

[70]M. Pupius Piso Frugi, to be exact.

[71]Cicero, *De Finibus* 5.25.74.

> Hephaestion, who accuses everyone else of literary theft [κλοπὴ] took the solution from me, but claimed it for himself when publishing his work on . . . Anacreon. . . . And the same Hephaestion proved a like thief in the case of the noble Adrastus [of Aphrodisias].[61] For Adrastus had published five books, *On Questions of History and Style in the Ethics of Theophrastus*, and a sixth book, *On the Nicomachean Ethics of Aristotle* . . . saying a great deal about Antiphon. But Hephaestion stole all this also and wrote a book, *On the Antiphon of Xenophon's Memorabilia*,[62] although he had discovered nothing additional of his own. . . .[63]

Onesicritus, a pupil of Diogenes of Sinope, wrote an *Education of Alexander* which he fashioned closely after the *Cyropaedia* of Xenophon: "In their diction both [Onesicritus and Xenophon] are not unlike," Diogenes Laertius comments, "except that Onesicritus, as might be expected from a mere imitator, falls short of his model."[64] And of Menippus the Cynic it was said that "experts doubted the genuiness of the works attributed to him, alleging them to be by Dionysius and Zopyrus of Colophon, who, writing them for a joke, made them over to Menippus."[65] It is not impossible that Menippus subsequently published them as his own original productions.

Neither did Aristotle escape the charge of plagiarism. "Aristotle [is said to have] derived the majority as well as the most important aspects of his [philosophical] teachings from Plato."[66] Since this particular charge is made by the wholly unreliable Clement of Alexandria, it can safely be disregarded.[67] Clement, on the authority of the equally untrustworthy Aristobulus, also claims that the whole of Peripatetic (or Aristotelian) philosophy "was derived from the law of Moses and from the other prophets"[68]—an utterly ridiculous statement.[69]

The Stoics in particular came in for much recrimination. They were accused by the Peripatetics[70] of having "stolen" their whole philosophy from them: "These people [the Stoics], to be sure, have taken from us [the Peripatetics] not just one idea here and another idea there. They took over and appropriated our whole philosophy"[71] —a thesis it would be difficult to substantiate, even though Stoic

philosophy, especially late Stoicism, contains a certain amount of Aristotelian thought. "And," Cicero continues, "like all other thieves of this kind who change the 'trade marks' of the things they have stolen, these [the Stoics], in order to use our teachings as their own, changed our particular nomenclature."[72] Polemon, the Academician, is said to have addressed Zeno, the Stoic, as follows: "You slip in, Zeno, by the back door—I am quite aware of this—you steal my teachings and then give them a Phoenician make-up."[73] According to Clement of Alexandria, who apparently denies that any Greek philosopher ever produced an original thought of his own, some followers of Plato vigorously asserted that the Stoics had been charged with

[72]*Ibid.*

[73]Diogenes Laertius 7.25. The reference to the "Phoenician make-up" is probably a reference to Zeno's Phoenician origin; but it might also contain an allusion to a kind of camouflaging with red paint or painting over someone else's property with red paint, thus making it appear as one's own. This would imply, then, that Zeno merely changed the nomenclature used by Polemon. See n. 72 and the text thereto.

[74]*Stromateis* 2.6.27 and 5.14.96.

[75]*Ibid.*, 5.14.106.

[76]*Ibid.*, 6.2.27. Diogenes Laertius (7.33) reports that in his *Republic* Zeno apparently used ideas that can be found in the "political" writings of Plato. See also Diogenes Laertius 7.131.

[77]Diogenes Laertius 7.180.

[78]*Ibid.*, 7.181. (See n. 4.)

[79]*Ibid.*, 10.26.

[80]According to Diogenes Laertius 10.2, Epicurus read some of the works of Democritus at the age of fourteen. (Diogenes Laertius 10.14 reduces the age to twelve.) On the island of Samos he heard the Platonist Pamphilius (*ibid.*, 10.14; Cicero, *De Natura Deorum* 1.2.72). Nausiphanes, a follower of Democritus, probably had a lasting influence on Epicurus and his thought (Cicero, *De Natura Deorum* 1.26.73; Diogenes Laertius 10.12 and 10.14). In later years he emphatically, though not convincingly, denied this influence (Diogenes Laertius 10.12). According to Diogenes Laertius 10.12-13, he also was acquainted with the teachings of Anaxagoras, Archelaus, Praxiphanes (a pupil of Theophrastus?), and Xenocrates. The ἀκαταπληξία of Democritus is said to have become the ἀθαμβίη (or ἀθαμβία —fearlessness) of Epicurus (Clement of Alexandria, *Stromateis* 2.21.130); and the logic (*Canon*) of Epicurus supposedly is based on the logical teachings (the *Tripod*) of Nausiphanes (Diogenes Laertius 10.14). For some time Epicurus called himself a Democritean (Plutarch, *Adversus Coloten* 3.3); but later he denied any and all connections with the thought of Democritus, whom he called a nonsense-monger (Diogenes Laertius 10.8). He went so far as to maintain that he never had a teacher, that no one ever taught him anything, and that he was a complete autodidact (Cicero, *De Natura Deorum* 1.26.72 and 1.33.93; Sextus Empiricus, *Adversus Mathematicos* 1.3).

[81]Diogenes Laertius 10.7.

[82]*Ibid.*

[83]Perhaps the expression "shameless" in Diogenes Laertius 10.3 refers to Epicurus's plagiarisms.

[84]Clement of Alexandria, *Stromateis* 6.2.27.

[85]Diogenes Laertius 2.97.

[86]*Ibid.*, 10.4.

[87]*Adversus Mathematicos* 1.273.

[88]Homer, *Iliad* 1.469.

[89]*Ibid.*, 24.54.

[90]Diogenes Laertius 10.26.

[91]*Ibid.*, 10.26.

having pilfered the majority as well as the most important of their doctrines from Plato;[74] and the same Clement, who also observes a certain dependence of the Stoics on Heraclitus of Ephesus,[75] informs us that according to tradition Zeno in particular had "borrowed" heavily from Plato.[76] Diogenes Laertius tells the story that Chrysippus "copied out the whole of Euripides' *Medea*"[77] and Apollodorus of Athens maintained that "if one were to strip the works of Chrysippus of all extraneous quotations, his pages would be left bare."[78] It is not clear, however, whether Chrysippus gave due credit to the fact that he made use of many "extraneous quotations." Carneades, according to Diogenes Laertius, went so far as to call Chrysippus "the literary parasite of Epicurus."[79]

Epicurus, as is well known, wished to create the (obviously false) impression that in his philosophical doctrines he was a complete αὐτοδίδακτος.[80] His former disciple Timocrates, the brother of Hermodorus, claimed, however, that "most of what is contained in the thirty-seven books *On Nature* [written by Epicurus] is a mere repetition of what previously had been said by others."[81] Timocrates also insisted that Epicurus "had copied his *Canon* out of Nausiphanes' Τριπόδος."[82] In later years it was suggested that Epicurus had borrowed—some used the term "stolen"[83]—a great many ideas from Democritus;[84] it was suggested that he had borrowed especially from *Of the Gods*, a book by Theodorus the Atheist, "most of what he wrote on the subject."[85] It was also said that "he put forward as his own the teachings of Democritus about atoms, and the teachings of Aristippus about pleasure."[86] According to Sextus Empiricus, he derived certain of his basic doctrines from the ancient poets:[87] from Homer[88] his definition of pleasure, and from Epicharmus and Homer[89] his teachings about death. Diogenes Laertius informs us that Epicurus's many writings "contain not a single citation from other authors";[90] but Carneades insists that "he has so many citations that they alone fill his books."[91]

These are some of the recorded instances where philosophers of Greek antiquity, rightly or wrongly, have been charged with plagiarism. Since much, and perhaps too much, of the original ancient literature either has been lost or has come down to us in an altered and even mutilated form, it is difficult and, in most instances,

impossible to verify these charges. It remains now to discuss some of the ancient authors or critics who have made it their particular business to ferret out and ascertain philosophical plagiarisms.

II.

Already in late antiquity special efforts were made to establish on the basis of "critical" investigations a number of philosophical plagiarisms. These efforts probably were prompted by the various and frequently random charges and countercharges of borrowings made by rival philosophers or competing schools of philosophy. At the same time, an ever increasing number of learned commentaries, synopses, and *florilegia* made their appearance, which among other matters also collated, compared, and analyzed parallel or merely similar ideas,

[92]Of great importance were also the works of grammarians and the several Περὶ εὑρημάτων which frequently attempted to establish the seniority among competing ideas, doctrines, or writings.

[93]In Φιλόλογος ἀκρόασις, which in part has been preserved by Eusebius, *Praeparatio Evangelica* 10.3.1-24.

[94]In *Stromateis*, Book V, chap. 14, and Book VI, chap. 2, *et passim*.

[95]In *Praeparatio Evangelica* 10.1.1-9; 10.2.1-14; 10.3.1-26.

[96]*Ibid.*, 10.3.12. According to Porphyry (Eusebius), Aristophanes of Byzantium wrote mostly on the alleged plagiarisms of Menander. It is probable, however, that he wrote an *On Parallelisms* (cf. *ibid.*, 10.3.12: Περὶ παραλλήλοις rather than an *On Plagiarisms* (Περὶ κλοπαῖς), and that it was Porphyry who added the term plagiarism.

[97]Eusebius, *Praeparatio Evangelica* 10.3.12. Latinus, too, apparently dealt with the "plagiarisms" of Menander.

[98]*Ibid.*, 10.3.13. Caecilius, too, seems to have written on the "plagiarisms" of Menander.

[99]*Ibid.*, 10.3.17. Philostratus of Alexandria charged Sophocles with plagiarism.

[100]*Ibid.*, 10.3.23. Like some of his predecessors, Lysimachus charged Ephorus with plagiarism.

[101]*Ibid.* In his Ἰχνηταί, Pollio(n) accused a number of historians with plagiarism, such as Herodotus (who stole from Hecataeus), Ctesias, and Theopompus, who, in the eleventh book of his Φιλιππικά (11 B, frag. 110; Mueller, *Fragmenta Historicorum Graecorum*, p. 295) stole from the *Areopagiticus* of Isocrates (*Praeparatio Evangelica* 10.3.4). The passage from which Theopompus allegedly stole is *Areopagiticus* 7.4. According to Pollio(n), Theopompus committed a great many literary thefts. See *Praeparatio Evangelica* 10.3.9-11.

[102]Eusebius, *Praeparatio Evangelica* 10.3.23. Aretades, it appears, discovered, or claims to have discovered, a great many literary plagiarisms among Greek poets. It should be noted that none of the authors on plagiarism, mentioned by Porphyry, has dealt with philosophical plagiarisms, at least not according to the report of Porphyry.

[103]See n. 93. Eusebius quotes Porphyry's work primarily in order to show that the Jewish or Christian authors (see *infra*) were not the only ones or even the first ones to accuse the Greeks of plagiarism, but that the Greeks themselves had already done so for some time (*Praeparatio Evangelica* 10.1.7).

[104]*Ibid.*, 10.3.24-25. See also n. 53.

statements, and expressions.[92] As a result of all this, a new type of "scholarly" literature developed which concerned itself exclusively with problems of plagiarism. Unfortunately, only a few fragments of this literature have survived, most through the writings of Porphyry,[93] Clement of Alexandria,[94] and Eusebius of Caesarea.[95]

Porphyry mentions a number of authors who had composed specific and detailed works or critical studies on plagiarism; namely, Aristophanes of Byzantium,[96] Latinus,[97] Caecilius of Calacte,[98] Philostratus of Alexandria,[99] Lysimachus,[100] Pollio(n),[101] and Aretades.[102] These men probably supplied Porphyry—and, through Porphyry, Eusebius and perhaps Clement of Alexandria—with some information concerning ancient plagiarism. With the exception of a few and perhaps seriously distorted remarks found in the Φιλόλογος ἀκρόασις of Porphyry, all or nearly all of their critical studies are lost. Hence it is impossible to verify their allegations or determine their influence on later authors.

Porphyry, who, besides his extensive philosophical works, also engaged in critical philological, historical, and literary studies, recorded, collated, and probably also unearthed (or thought he had unearthed) a number of plagiarisms committed by some of his predecessors. He seems to have reported certain of his findings in the Φιλόλογος ἀκρόασις a work of which an excerpt (or abbreviation) or fragment is preserved in the *Preparatio Evangelica*[103] of Eusebius of Caesarea. The only philosophical plagiarism which, according to the report of Eusebius, was recorded by Porphyry is the charge made by Prosenes the Peripatetic that Plato not only had made extensive use of his predecessors but also had pilfered them on a huge scale. But for the nearly complete loss of the pre-Platonic literature, Prosenes continues, we might possibly detect even more literary thefts committed by Plato, who, among other things, probably also borrowed from Protagoras's Λόγός περὶ τοῦ ὄντος.[104]

Eusebius of Caesarea, in his search for plagiarism, relied mostly on Porphyry and Clement of Alexandria, and wished to impress his readers with the fact that most and perhaps all of Hellenic philosophy is not perchance an original contribution of the Greeks but rather is borrowed, stolen, or plagiarized directly from older and presumably

more advanced civilizations—especially from the Jewish people, or, to be more exact, from the scriptural tradition of the Jews. Clement of Alexandria, one of Eusebius's sources, in turn seems to have derived some of his information about Greek philosophical plagiarism from the Judaeo-Hellenistic Apologists (but not necessarily from Aristobulus), who flourished in Alexandria from the third century before Christ.

The most prominent and certainly the most influential of the early—that is, pre-Philonic—Judaeo-Hellenistic Apologists was probably Aristobulus of Alexandria, who in an almost fanatical spirit of chauvinism insisted that the teachings and sayings of the Greek philosophers and poets were either based on, or immediately derived from, the Old Testament.[105] In particular, he claimed that Pythagoras, Socrates, Plato, and Aristotle had found their basic doctrines in the Scriptures.[106] This theory, it will be noted, is of great historical significance. With some modifications it was adopted and for a long period of time adhered to by many of the early, and even later, Christian theologians, who thus found it possible to uphold many of the philosophical tenets of the Greeks and Romans and, at the same

[105]In order to prove his extravagant thesis, Aristobulus not only falsified Greek texts; he also tried, through fanciful allegorical interpretations of certain biblical passages, to achieve a plausible *rapprochement* of the Scriptures and the writings of certain Greek philosophers and poets. In addition, in order further to strengthen his thesis, he invented the incredible story that the Old Testament had several times been translated into Greek at a very early period.

[106]Eusebius, *Praeparatio Evangelica* 13.12.1 ff. See also *ibid.* 8.9.38 and 13.11.3; Clement of Alexandria, *Stromateis* 1.15.72; 5.14.97, *et passim.*

[107]Clement of Alexandria, *Stromateis* 5.14.89-139.

[108]*Ibid.*, 6.2.4. Clement prefaces his report on Greek plagiarisms with the statement: "Let us adduce the Greeks as witnesses against themselves to the theft" (*ibid.*).

[109]*Ibid.*, 6.2.25.

[110]*Ibid.*, 6.2.5-24.

[111]*Ibid.*, 6.2.25.

[112]*Ibid.*, 6.2.25-27.

[113]*Ibid.*, 6.2.16.

[114]*Ibid.*, 6.2.17.

[115]*Ibid.* Thus we are told that Empedocles derived his doctrine of the four basic elements from Athamas's thesis that "there are four roots—fire, water, air, and earth." From these sprang everything that is generated.

[116]*Ibid.*

[117]*Ibid.*, 6.2.23. Aristophanes' statement that "to think and to act are the same thing" supposedly is identical with Parmenides' assertion that "thinking and being are one and the same."

[118]*Ibid.*, 6.2.24.

[119]*Ibid.*

[120]*Ibid.*

[121]*Ibid.*, 6.2.25-27. See also *ibid.*, 6.2.25: "They [the Greek authors] will also be convicted of the possession of what is stolen wholesale. Stealing wholesale what is the production of others, they have published it as their own. . . ."

[122]*Ibid.*, 6.2.25.

time, proclaim the absolute superiority and greater antiquity of the Judaeo-Christian teachings over those of the Greeks.

Like Aristobulus, and essentially for the same reasons, Clement of Alexandria, in the last part of Book V of the *Stromateis*,[107] goes to great length in his effort to prove that the whole of Greek philosophy or philosophical wisdom had been pilfered from the Scriptures. In order further to substantiate his thesis, he demonstrates in Book VI, Chapters 2-4, of the *Stromateis* that the Greek poets and philosophers extensively and rather shamelessly stole from one another. This being so, how much more readily would they steal from foreigners.

> Inasmuch as they pilfer from one another, they establish the fact that they are thieves . . . clandestinely appropriating . . . the truth which belongs to us. If they do not keep their hands off each other, they will hardly keep them off our authors.[108]

Clement then proceeds in a totally disorderly and confusing manner to enumerate approximately sixty instances of alleged plagiarisms, which he tries to support with about one hundred and eighty illustrations or quotations chosen at random. First he points out, citing examples, where in his opinion one Greek author borrowed the ideas, expressions, or statements (διχάνοιαι καὶ λέξεις)[109] of another Greek author.[110] Then he lists those instances where a Greek writer had lifted or appropriated whole sections and passages (ὁλοκλήρα φωρία)[111] from another Greek writer.[112] In sum, the first part deals with petty thievery, while the second part is concerned with wholesale theft.

Among the incidents of petty thievery, Clement refers to the following authors: Xenophon stole from Sophocles;[113] Heraclitus of Ephesus from Orpheus;[114] Empedocles from the Pythagorean, Athanes;[115] Menander from Plato;[116] Aristophanes from Parmenides;[117] Euripides from Empedocles;[118] and Epicurus from Euripides,[119] as well as from Aristophanes.[120] Then follow the relatively few cases where Clement believes to have uncovered instances of wholesale theft; that is, instances where one Greek author had lifted major sections from the writings of another Greek author.[121] Eugammon of Cyrene, we are told, pilfered from Musaeus the whole book which the latter had composed about the Thesbrotians;[122] Peisander of Camirus has

plagiarized wholesale the *Heraclea* of Pisinus of Lindus; and Panyasis of Halicarnassus has taken over a large part of the *Capture of Oechalia* composed by Cleophilus of Samos.[123] Homer, too, is accused of major thefts from Orpheus;[124] Hesiod from Musaeus;[125] Aristophanes from Cratinus;[126] the comic poet Plato, from Aristophanes (and vice-versa);[127] and Aratus (Aristophanes?) from the comic poet, Philemon.[128] In addition, a goodly number of other writers are mentioned as major plagiarists; Gorgias of Leontini (and Eudemus of Naxos), who presumably stole important ideas from Melesagoras;[129] Heraclitus of Ephesus, who allegedly "took a great deal from Orpheus";[130] Aristotle, who "pilfered the majority of his most important teachings from Plato";[131] and Epicurus, who derived his main doctrines from Democritus.[132] "Life would fail me," Clement concludes in a rather condescending manner, "were I to undertake to go over the subject [Greek philosophical plagiarism] in detail."[133]

Clement's allegations, it goes without saying, cannot be taken at their face value. In his apologetic fervor he definitely overshoots his own target. Wherever he believes to have detected suspicious sim-

[123]*Ibid.* Since nearly all the works mentioned by Clement in this connection are completely lost, Clement's allegations of theft or plagiarism can no longer be verified. As regards the theft of Eugammon from Musaeus, it might be intimated here that it is more likely that the poems which were circulated under the name of Musaeus were plagiarized from Eugammon. According to Pausanias 1.22.7, with the possible exception of the *Hymn to Demeter*, most of the poems ascribed to Musaeus were forgeries.

[124]*Ibid.*, 6.2.26.

[125]*Ibid.*

[126]*Ibid.*

[127]*Ibid.*

[128]*Ibid.*

[129]*Ibid.*, 6.2.27.

[130]*Ibid.*

[131]*Ibid.*

[132]*Ibid.*

[133]*Ibid.*

[134]The anonymous author of Περὶ ὕψους, chap. 13, points out that imitation (μίμησις) of the great poets of old is by no means plagiarism (κλοπή). Plato, we are told, rose to such eminence exactly because he competed with Homer, because he used Homer as his model. See also what Pliny had to say about Virgil (n. 9). Our anonymous author also quotes with much approval from Ammonius's Περὶ τῶν ἀπὸ Πλάτωνος μετενεμηγμένων ἐξ Ὁμήρου (*scholium ad Hom. Iliad.* 9.540), a work in which Ammonius shows the decisive influence of Homer on Plato. Ammonius denies, however, that Plato ever plagiarized Homer. See Theon, *Progymnasmata* 2.62 ff., who likewise stresses the usefulness and appropriateness of relying on and imitating the great literary models of the past.

[135]*Stromateis* 6.2.25-27.

[136]It seems that none of the authors of a Περὶ κλοπῆς, mentioned by Porphyry (see *supra*), has been Clement's informant. Neither is it certain that he relied on Aristobulus, although both Clement and Aristobulus seem to have much in common. Naturally, it is not impossible that he made some use of Aristobulus. This, however, cannot be shown conclusively.

ilarities, parallelisms, and dependences, they are frequently mere commonplace sayings, truisms, proverbs, or just the general formulations of certain universal human experiences which in the course of time have been repeated again and again by different authors in similar or identical language.[134] Only a few examples cited by Clement can justifiably be termed deliberate plagiarisms. Hence his statement that nearly all philosophical authors of Greek antiquity—or at least those with whom he happened to be acquainted—were shameless plagiarists simply borders on the absurd, especially since this statement was uttered by a man who himself is a plagiarist of the worst sort.

Where, then, did Clement derive his information concerning the many—alleged and true—instances of plagiarism among Greek philosophers and authors? It would not be amiss to presume that for the relatively short report on alleged wholesale thefts[135] he made use of a work *On Plagiarism*, or Περὶ πολυκῆς, which, however, is no longer extant and the author of which is unknown.[136] The considerably longer excursions dealing with petty thievery, or stolen διάνοιαι καὶ λέξεις, cannot possibly have been taken from an ancient work entitled Περὶ κλοπῆς, and this for the simple reason that most of the examples quoted by Clement are not plagiarisms in the accepted sense of the term but merely accidental parallelisms or perhaps eye-catching similarities which in all likelihood had been compiled by the unknown author of some lost commentary synopsis, or *florilegium*.

JAMES COLLINS, *Saint Louis University*

Meaning and Existence. **By Gustav Bergmann. Madison: Univ. of Wisconsin Press, 1960. Pp. xi + 274. $6.50.**

This is a selection from the essays which Professor Bergmann has been steadily publishing during the past six years. They cover a wide field of topics, but they do so from a certain viewpoint and with a certain aim in mind. The general standpoint is that of analytic philosophy, but the particular wing is that of an analysis of the structures of ideal languages. As for the general aim of these essays, they seem to be providing a trial run for the positions which will eventually constitute the second volume in Bergmann's presentation of the philosophy of science. In his first volume, he laid out the requirements of Newtonian explanation and suggested that they could serve as a framework for analyzing the types of explanation found in the several sciences. The crucial question then facing him was whether the logic of Newtonian physical science, as properly emended, can furnish the interpretative basis for reformulating the method and limits of psychology. Most of the essays in the present collection converge in one way or another upon this topic and thus prepare the way for a more detailed statement.

Bergmann regards the problem of the nature of mind as the most important issue in philosophy, at least in that stage of a philosophy at which he is presently engaged. He represents one of the new tendencies in analytic philosophy which seeks to recover a meaning for mind and to acknowledge its ontological status as an existent. In order to settle upon an acceptable meaning, he emphasizes the relationship between mind and intentionality. This enables him to approach the nature of mind in a functional way but without converting the theory of mind into a psychologistic description of particular, measured operations. In order to determine the object of the intentional reference, we must consider the main object of analytic philosophy itself. From where Bergmann stands, the primary concern of philosophy is to study the question of analyticity or necessity. This is a way of saying that philosophy reflects upon the structure which brings objects within the scope of scientific knowledge.

On this basis, a definition is proposed for mind, a definition which will characterize mind in terms of intentionality and its logically determined object. Mind is nothing other than the capacity to think necessity.

Bergmann then defends this logical account of mind against easy empirical attempts to dismiss it. In our actual thinking, we not only can think of the necessarily true and the necessarily false but of the contingent as well. But the referential direction of mind as such is toward the analytically necessary proposition. Bergmann adds that ours is a world of subject-predicate structures but that analytic philosophy as he conceives it would be overturned by absolute time, were it shown to be existent.

This theory of mind depends upon two preliminary decisions. The first is to confine the question about mind to the particular form of how one can fit mind into a Newtonian world and thus into a scheme based on the logic of that world. And the second point is to establish an exclusive correlation between the structure of intentionality and the object of analytic work. Within this twofold limitation, it is probably not possible to move beyond the description of mind furnished by Bergmann and those employing the same approach. But no satisfactory argument is given that every philosophical study of mind must acquire its rigor by accepting these two limiting conditions. The other approaches to intentionality which pay attention to the intending subject are not accommodated within this framework, and yet they are not to be confused with a psychologistic view of mind.

Among the later essays in this book are some interesting and highly curious forays into such earlier philosophers as Ockham, Leibniz, and Malebranche. A vigorous analysis of certain themes is made, but the absence of historical bearings gives an unreal air to the whole enterprise. Bergmann also makes an incisive and frequently humorous criticism of Urmson's little book on how analytic philosophy moved beyond classical logical atomism. The conclusion is reached (somewhat in the same vein as John Wild's genealogy) that there is a common Hegelian root for American instrumentalism, continental existentialism, and Oxford analysis. Concerning the latter school, Bergmann regards Hegelian contextualism as the basic reason why the Oxford group stressed the intended use of language and the expansion of analyzed meanings. He does not take up here the refinements introduced into this branch of analytic philosophy.

LOUIS A. BARTH, S.J., *Saint Louis University*

Aristotle. **By John Herman Randall, Jr. New York: Columbia Univ. Press, 1960. Pp. xi + 309. $5.00.**

John Herman Randall, Woodbridge Professor of Philosophy at Columbia University and joint editor of the *Journal of Philosophy*, has given to the philosophical public an interesting and highly personal study of Aristotle. If one did not know from other sources the substances of the author's

philosophical theories, one could certainly discover them here. There is a striking unity of interpretation running throughout the whole effort. The views which control Randall's reading of Aristotle can perhaps be reduced to two; namely, his idea of philosophy and his conception of philosophical language. For the influences which have formed his understanding of the nature of philosophy one should go to Peirce, Dewey, Mead, Alexander, and Whitehead. Randall is a philosopher of process, seeing in the world an immense complex of processes which act and interact in their own distinctive ways. The philosopher must open his eyes on the world and see what is passing there; he must distinguish the operations, the functions, and the factors at work in them. In light of this, Aristotle is interpreted as a thoroughgoing philosopher of process, or a functionalist; he is sometimes referred to as an operationalist, a contextualist, and even a behaviorist. There is a common note justifying all these designations, and it is that Aristotle was perceptive of all the processes and operations in the world.

In his presidential address to the American Philosophical Association (Eastern Division) in 1956, Professor Randall proposed the formulation of an "extraordinary language" for the purpose of expressing what the philosopher of process sees in the world. Ordinary language is for the most part a noun-language, he contends; and it is unsuited for the expression of the directly experienced world of processes. A noun-language uses nouns and adjectives to tell of things, their powers and properties; such a language fails to give an account of processes, their modes and relations. For this reason a new and sophisticated language must be supplied the philosopher. Although Randall does not develop this theory explicitly in this book, one can see that such considerations to a great extent control his linguistic interpretation of Aristotle.

The author urges with conviction the relevance on two counts of the Stagirite for contemporary philosophy. Today's philosophers are engaged in analytical studies, analysis of language and analysis of physical processes. Aristotle has much to offer for both analyses, for he presents two methods, that of the *logikos* or *dialektikos* and that of the *physikos*. As *logikos* he is the analyst of language, the dialectician, the talker. He approaches philosophical problems first in formal analysis, clarifying language, removing linguistic roadblocks. Linguistic investigation uncovers problems which defy solution on the level of language itself. Here the *physikos* in Aristotle takes over; and he employs the technique of "physical" or functional analysis, and thus he can work toward a real solution of real problems. The *logikos* can formulate questions, but it is the *physikos* who truly answers them. This dual approach taken by the Philosopher can be studied with profit today.

Greatly influenced by Jaeger's theory of doctrinal development, Randall correlates the method of the *logikos* with the earlier or Platonic period and the procedure of the *physikos* with the later or Aristotelian period. According to this theory it was in his Platonic stage that Aristotle developed his formalism, whose ideal of science was Greek geometry and which culminated in the *Posterior Analytics*. The later works are more physical and functional, and show a greater interest in inquiry and investigation; they are his naturalistic writings. For Randall, Aristotle's naturalism is the most living part of his legacy to Western philosophy; it is this which marks him as a philosopher of process. Randall does not advocate the abandonment of formalism for a pure naturalism, for he sees the need of structure within process. He pleads for an intensive harmonizing of these two aspects of Aristotle's thought. The Philosopher himself began the work of co-ordination but did not carry it through to the end.

Authentic Aristotelianism means for the author a serious concern with the world which is directly experienced and a factorial (not reductive) analysis of what is immediately encountered in that world. Likewise it signifies true rationality in the language by which one expresses what is directly seen in that world. In brief, Aristotelianism approaches the ideal of philosophy which Randall envisages, a philosophy or process, a functional realism.

In urging the timeliness of Aristotelian philosophy for the contemporary scene, Randall must take account of the view that post-Darwinian evolutionary thought has proved the notion of fixed species to be wholly passé. Though he admits that Aristotle's theory of generation makes no provision for the emergence of the absolutely novel, for him his natural teleology finds its only completion in terms of modern evolutionary thought. Perhaps reacting to the neglect and disdain shown Aristotle's logic by some contemporary logicians, Professor Randall gives a sympathetic presentation of Aristotle's formal dialectic, emphasizing that it is not a mere formal system but a most useful instrument of proof and of scientific inquiry. This logic has vast and profound ontological implications, and it is adapted for use in contemporary philosophy and science.

Randall takes up the various works of Aristotle and explains the more important concepts while interspersing his account with interesting personal reflections on the text. Usually these comments are in the nature of observations on the historical and doctrinal relations between the theories of Aristotle and those of other philosophers. Reading Aristotle in the light of modern and contemporary discussion, Randall finds ample justification in the Stagirite for the rejection of philosophical positions which he personally opposes. The empiricism of Hume and Mill, the critical epistemology of Kant, the Baconian notion of science, are among the various

philosophical views which he spurns. Aristotle's functional realism moves him to disapprove of reductive analysis and such linguistic analysis as remains wholly on the level of language.

Randall's method betrays certain weaknesses especially when he ventures into the history of medieval philosophy, an area in which he claims no real competence. The frequency and facility with which he makes his generalizations arouse prudent skepticism in the reader. It is hard to see how even considerable research could justify some of his categorical pronouncements. This book, like many in the British fashion, is noticeably lacking in references and footnotes. Despite these shortcomings one can see in this work the harvest of years of cultivation of Aristotelian studies.

Randall follows Jaeger in his interpretation of Aristotle but not without departing considerably from him at times. He maintains some rather unusual views about the meaning of certain points; for instance, he classifies as "Platonic myths" the Unmoved Mover of Book Lambda of the *Metaphysics* and the Aristotelian active intellect. These are held to be instances of the use of the "likely language" of the *Timaeus*. Following Mead and Dewey, he sees in the active intellect nothing other than *logos*, by which is meant discourse, language, or communication. First matter is of only minor importance for Aristotle, and it assumes a major philosophical role only in the systems of the creation-minded medieval Platonists. Among the many commentators Randall selects Pomponazzi and Zabarella as the most faithful to the true mind of Aristotle, even taking their Averroistic tendency into account. In Aristotle's *Organon* Randall finds that true knowledge consists in *logos* or expression.

Professor Randall disclaims any pretentions to being a philologist; he rarely discusses the Greek text, and he uses English characters instead of Greek type. He has attempted to offer a philosophical version of Aristotle as seen from his personal viewpoint. Randall has not probed deeply into metaphysics, nor has he contributed anything substantial to Aristotelian scholarship. Some of his discussions are on an elementary level. This work will probably make its strongest appeal to those interested in the history of science and in the history of ideas; but any student of Aristotle, be he beginner or specialist, will find it hard to lay down.

LEO SWEENEY, S.J., *Saint Louis University*

Treatise on Separate Substances. **By Saint Thomas Aquinas. Trans. with introduction and notes by Francis J. Lescoe. West Hartford, Connecticut: Saint Joseph College, 1959. Pp. x + 138. $2.00.**

On Charity (De Caritate). **By Saint Thomas Aquinas. Trans. with an introduction by Lottie H. Kendzierski. Milwaukee: Marquette Univ. Press, 1960. Pp. 115. $3.00.**

Every serious student realizes the importance of Aquinas's *Treatise on Separate Substances*, which has been characterized as "an incomparably rich historical work" (Gilson) and as "one of the most important metaphysical writings of Aquinas" (Eschmann). Lescoe now provides us with an English translation of that significant work, made from a newly established Latin text, for which twelve manuscripts were used and which fortunately will also be published as a separate volume. Those manuscripts come from various European libraries (Cambridge, Toledo, Paris, Venice, Rome, Bologna, Bordeaux, and Metz. Paris, *Bibl. Nat. lat.* 14546 was selected as the basic manuscript, although a number of readings were adopted from the other MSS and, in a couple of instances, from the early incunabula of Soncinas 1488 and Antonius Pizzamanus 1490, 1498, and 1508); and the result is a Latin text which "does not pretend to be *critical* in the strict sense of the word" but nonetheless is "adequately representative of the best extant families [of MSS] of this particular treatise" (p. 14).

The present volume is an English translation of that corrected Latin text. Lescoe here presents first an "Introduction," in which he summarizes the opinions of Mandonnet, Glorieux, Callus, Grabmann, and other scholars as to when Thomas wrote the treatise. Lescoe himself finally fixes "the period 1270-1272 as a very likely date" (pp. 6-7), mainly because the condemnation of December 10, 1270, seems to have influenced the Dominican author in Chapter xiii, no. 67, and because the entire treatise seems closely related to his *Expositio super Librum de Causis.* A brief outline of what St. Thomas says concerning separate substances concludes the "Introduction" and the translation itself immediately follows. At the end of the volume one finds a list of authors cited by St. Thomas, a bibliography of authors cited in English and/or Latin edition, and a detailed index.

The English version itself seems sufficiently accurate and clear, with abundant footnotes providing precise references to the sources St. Thomas explicitly or implicitly uses. Almost always Lescoe translates *esse* by "to be." The Latin word is notoriously hard to handle in English, but "to be" hardly seems a good English counterpart when one comes upon such misleading or, at least, awkward sentences as these: "Secondly, because he

thought that 'to be' in potency, 'to be' a subject, and 'to be' a recipient would in all cases be said according to one notion" (p. 35, no. 19). Again: "For an effect proceeds from any given agent according to the mode of the 'to be' of the agent. Now the 'to be' of the First Principle in His 'to understand' and 'to will'" (pp. 63-4, no. 52). Finally: "But in immaterial substances, their 'to be' itself is their 'to live,' and their 'to live' is not other than their 'to be intelligent'" (p. 72, no. 61).

But awkward sentences such as these are rare, and all teachers and students should be grateful to Lescoe for an important and difficult task well performed.

Gratitude is also due to Dr. Lottie Kendzierski for translating Aquinas's brief but informative study on the theological virtue of charity, which was one of a series of disputed questions held between 1269 and 1272 on the virtues (the same series seem to have included *De Virtutibus in Communi*, *De Virtutibus Cardinalibus* and *De Spe*) and which was written practically contemporaneously with his *Treatise on Separate Substances* (if we accept Lescoe's dates for the latter). True enough, Kendzierski does not establish a new Latin text for *De Caritate* but is content to work from the 1949 Marietti edition. Within those conditions, though, her translation is useful and important. Its introduction provides sections on (1) the works of St. Thomas; (2) the authenticity of the *Disputed Questions*; (3) the style of the *Quaestiones Disputatae*, together with a comparison of them with the *Quaestiones Quodlibetales* and the *Summa Theologiae*; and (4) a doctrinal summary. This last is especially significant because of the detailed evidence it gives that Aquinas's treatment of charity in the *Summa Theologiae* (II II, Questions 23-27 and 44) closely parallels that of his *Quaestio Disputata de Caritate*. Thus Kendzierski offers an additional proof that Aquinas chose those topics for his *quaestiones disputatae* which could and would be incorporated into his *Summa*.

The translation follows the introduction and is itself followed by a list of books used and a helpful index.

Of what caliber is the translation? Quite accurate and clear, I would say from spot-checking it. Occasionally, though, sentences seem a bit inaccurate or awkward. Take this as an example: "It cannot even be effected by God that the upward motion of a stone, which does not proceed from an intrinsic principle, be natural to it. Now it is possible to give a stone that power by which it would naturally move upward as *from an intrinsic principle*, but that motion would not be natural to the stone unless another nature be given to it" (p. 21; italics added). The pronoun "it" occurs five times, in two of which it is an initial expletive. Expletives are almost forced upon a translator by such frequent Latin expressions as *respondeo dicendum quod*, *sciendum est*, *possibile est*, *impossibile est*, *fieri potest ut*,

ad primum dicendum and so on (to list a few instances from the *respondeo* of the article in which we are currently interested). But too frequent use of expletives weakens the structure of English sentences. The present initial expletives could easily be replaced by some more direct and possibly more idiomatic expression such as this: "Not even God Himself could bring it about that the upward motion of a stone . . . be natural to it. Now He could give a stone that power. . . ." Moreover, what corresponds in the Latin to the italicized English phrase is *ex principio extrinseco.* Quite obviously Kendzierski's emendation is right, but she does not indicate this instance of a corrupt text as she had promised (p. 3) and as she does elsewhere (for example, see p. 30).

Again: "Therefore, that which has relation to the end must be formally in the act of the will" (pp. 36-7). In view of the Latin (*sit formale in actu voluntatis* [a. 3, Marietti ed., p. 761]) and of the context, a less misleading version apparently is: "Therefore, that which has relation to the end must be as form with respect to the act of the will." (Incidentally, matter and form with reference to virtues and virtuous acts seemingly mean nothing more than "the determinable" and "the determinant.") Even in the Latin the first portion of the next sentence is enigmatic: *Unde idem specie actus, secundum quod ordinatur ad unum finem, cadit sub forma virtutis; et secundum quod ordinatur ad alium finem, cadit sub forma vitii.* Kendzierski has: "Thus in species, the same act is considered under the form of a virtue if it is ordered to one end, or under the form of a vice if it is ordered to another end." May I suggest the following paraphrase as another interpretation? "An act which is specifically one and the same [when considered in itself] becomes now formally virtuous when referred to one goal, now formally vicious when referred to another."

Consider this as a final instance: "But in the present state of life, charity does not perfect all of the potentialities of the soul, and is not always perfectly directed to God because it must refer everything to Him by an actual intention" (p. 99). The Latin reads: *In statu autem viae caritas non implet totam potentialitatem animae, quae non semper actualiter movetur in Deum, omnia in ipsum actuali intentione referens* (a. 12, Marietti ed., p. 787). The pronoun *quae* apparently refers to *anima* and, accordingly, the following is perhaps a better translation: "But in this present state of life charity does not exhaust the entire potentiality of the soul, which is not always actually moved towards God by constantly referring everything to Him through an actual intention."

But fortunately such lapses seem comparatively rare, and Dr. Kendzierski, too, has succeeded in her translating project.

Anaximander and the Origins of Greek Cosmology. **By Charles H. Kahn. New York: Columbia Univ. Press. Pp. 220. $6.50.**

This new book on Anaximander is a very fine essay. It represents an enormous amount of painstaking work on the part of the author during a period of ten years (so says the preface). The fruits of this research are to be found not only in the text. They are also incorporated in numerous excellent footnotes, many of which share with the reader interesting insights and valuable bits of information, together with pertinent sources; much is also incorporated in the indices, of which there are three.

The first of the indices is the index of subjects; this is followed by the index of names and citations; and finally there is an index of Greek terms. Though the three indices, taken together in tandem, take up only six pages, they include all of the materials that are important and should prove to be both adequate and very useful.

The preface tells the story of the beginnings of the work and presents nicely the points which make it different from what has been given us by previous scholarly investigations.

Close study of the poem of Parmenides served as the original springboard. The author was impressed by the fact that a number of very fundamental cosmological concepts are accepted as well known by Parmenides and that the general world-view which serves as background to the poem is not the creation of Parmenides himself.

One of the differences that distinguishes the present inquiry from the traditional scheme is that the originality of Pythagoras is considered to be a figment, or an exaggeration, of the Hellenistic imagination. Some dozen pages, Appendix I, deal very thoroughly and in great detail with the use of the term *kosmos* in early Greek philosophy. The consequence of this appendix is that it appears quite plausible that the account of Diogenes Laertius that it was Pythagoras who first used the term *kosmos* of the universe is unhistorical.

A second departure from the traditional view consists in the portrayal of Anaximander as the intellectual giant of early Miletus, in whose glory both Thales and Anaximenes are dwarfed by comparison. To Anaximander is traced that which is most characteristic of Greek cosmology. This disagrees with the opinion of W. K. Guthrie. Thereby Anaximander is also separated from the company of Hesiod by a radical contrast in ideas about the physical universe; and this disagrees with the Cornford opinion.

Another interesting contribution or suggestion is that the occurrence of what may be called a sort of common early cosmological doctrine among

the ancient Greeks is testimony to the great influence of Anaximander. This line of thought would tend to place the undated Orphic poems at a time subsequent to the appearance of Anaximander and not at some period before the Ionian beginnings of philosophical speculation.

The thought of the book centers, as one would expect, about the fragment preserved by Simplikios. A very careful, cautious, balanced use of the doxographical materials is relied on for a sort of reconstruction of the lost original from Theophrastus. The principal authors consulted are Aetius, Aristotle, Diogenes Laertius, Hippolytus, Eusebius (Pseudo-Plutarch), with due consideration being given to Cicero and in some instances to St. Augustine.

The first part of the investigation deals with the documentary evidence; it closes with the texts and a very interesting commentary. A translation of all the texts would have been very welcome. While it is quite true that the commentary supplants the omission of translations, still one is curious as to how this or that phrase in a text would have been presented in a straight translation.

The second section deals with the cosmology of Anaximander. There are three parts, the third part dealing explicitly with the famous fragment from Simplikios. As to the other two parts of this section, it is very difficult to be choosy. The first is on the Milesian theory of the natural world. Though much here is old, there is a pleasing spirit of freshness about the entire presentation. The same may be said also of the second part, which deals with the classical doctrine of elements and opposites and its origins. This part is done very well.

One of the pleasures to be garnered from a careful reading of this work is that of a peculiar feeling of "at-homeness." One gets the feeling of having penetrated into the company of an ancient community highly charged with sincere, vibrant intellectual questionings and searchings. The entire sequence of Greek cosmological thinking seems to take on the character of an organic whole. The root of this fine quality in the writing may be due to generous, intelligent acceptance of the suggestion of Tannery. He thinks that in historical studies of this kind one should pay much more attention to such points as successive authors have in common rather than to those points which separate one author from another.

The book can be enthusiastically recommended to several classes of readers. Those who love Greek philosophy and literature will be delighted. Classical scholars will find in it much that pleases, that inspires, that instructs. Those who do not read Greek will find much that is frustrating, especially in the closely reasoned argumentative sections. This is unfortunate. Even highly scholarly works should have more translations if

for no other reason than to win to Hellenistic studies ambitious and capable youngsters whose appetite for Greek must be whetted.

The book deserves a place on the shelves of any school where philosophy and associated disciplines are taught and studied.

EDWARD MACKINNON, S.J., *Weston College*

Philosophy of Science: The Philosophy of Science Institute Lectures. **Jamaica, N.Y.: St. John's Univ. Press, 1960. Pp. 164.**

The Scientific Methodology of Theodoric of Freiberg: A Case Study of the Relationship between Science and Philosophy. **By William A. Wallace, O.P. Fribourg, Switzerland: The Univ. Press, 1959 Pp. xviii + 395. DM 22.**

The problem central to both works being reviewed is the relationship between the positive sciences and the general philosophy (or science) of nature, essentially a modernized Aristotelian physics. In the first of the lectures given at the St. John's University Institute, "Towards a Systematic Philosophy of Science," William Carlo sets the general tone with the claim that philosophy explains to science its own nature; that is, that it deals with proximate rather than ultimate causes. In criticizing the "philosophical claims of scientific theories" he manifests a broad knowledge of science, which falters only in the facile identification of psychoanalytic and Scholastic concepts. For example, "The *super-ego* is the end and purpose of an intellectual or spiritual soul attempting to find its moral and religious perfection" (p. 44).

Father Kane, O.P., treats "Reasons for the Facts of Organic Life." He concludes that the order of the parts of biology (as of the other main branches of science) is substantially that given by Aristotle and that all modern problems and theories can be given an orderly consideration only in this framework.

Vincent Smith studies the constitution of matter by fitting this problem into just such a framework. The general science of nature yields two conclusions which no particular science can falsify: the distinction between substantial and accidental change, and the matter-form composition. These conclusions are the basis for interpreting scientific data on the constitution of matter. Any sign of structure is an indication of form, the ultimate cause of the organization of matter; while any significant duality is interpreted as an adumbration of hylomorphism. Father Wolter, O.F.M., treats essentially the same problem but argues from quite a different basis. Fundamental systems coupled by electromagnetic or nuclear forces can generally be considered substantial units, while those bound by gravitational

or inertial forces are aggregates. The elements of a substantial unit can possess properties and, in principle, activities distinct from the substance as such in much the same way that a body, if informed by a *forma corporeitatis*, could have limited functions apart from the soul.

Rudolph Allers presents the "unconscious" as a hypothesis which modern knowledge demands and which previous philosophers, especially Platonists, had anticipated to some extent. Particular theories of the unconscious, such as Freud's and Jung's, do not carry the same credentials of credibility.

Theodoric of Freiberg (+ c.1310), an important pioneer in the science of optics, absorbed the Aristotelian tradition and anticipated, to a surprising degree, the methods of later-day scientists. This aspect of his work, which allows Father Wallace to use him as a "case-study," is not pursued at the expense of historical or textual integrity. Working from primary sources, Father Wallace has made a careful study of the optical tradition which preceded the German Dominican as well as the subsequent development of optics through Newton, has outlined Theodoric's basic philosophical positions (a non-Thomistic Aristotelian, influenced by Averroes and tinged by Neo-Platonism), and rounded out his work by supplying critical texts and translations of important opuscula. The result is a significant contribution to the study of medieval science. Here we shall consider only one aspect of this study, Theodoric's methodology.

The goal of Theodoric's studies was the Aristotelian one of certain causal knowledge derived by deduction from certain principles. In the realm of nature—as distinct from metaphysics—such principles are few. In treating qualities, for example, the only conclusions which Theodoric could really demonstrate were some general statements concerning contraries. For more particular conclusions he supplemented this deductive process with dialectical (that is, plausible) reasoning and the *modus tollens* refutation. Alternative hypotheses were disproved by showing that they led to false conclusions, while the verified conclusions drawn from the principles on which his dialectical argument was based were interpreted as a "sign" of the validity of these principles. In his greatest achievement, his explanation of the rainbow, he supplemented this philosophical methodology by experimentation. He used prisms, flasks, and crude models of raindrops to show the process of refraction, internal reflection, and dispersion which produce the primary bow as well as the extra internal reflections necessary to account for the reversed secondary bow. He concluded with a suggestive, albeit inaccurate, geometrical explanation. Though Descartes, in re-solving the same problem, ostensibly broke with this type of physical reasoning and relied on intuition and deduction, Newton returned to a methodology very similar to Theodoric's in his own definitive treatment of light. The implication of this study, Wallace concludes, is that an adequate theory of

science must explain not only the tentative provisional nature of current theories but also the permanent contributions to science resulting from the philosophico-scientific methodologies of Theodoric, Newton, and similar workers. This requires an integrative, rather than a compartmentalized, view of the relations between science and the philosophy of nature.

In place of individual criticisms of the different views sketched here, it might be more profitable to comment on what seems to be the basic point at issue, the relation between the philosophy of nature and the positive sciences. If this relation cannot be pinpointed, perhaps, at least, it can be localized as a mean between two untenable extremes. The first extreme is to equate "scientific method" with a scheme of induction, heuristic hypotheses, mathematical deduction, and experimental verification. As Wallace has shown for medieval science and Polanyi for modern, such positivistic systems do not explain what the scientist actually does and how he reasons. For example, in trying to determine "what is going on" in an experiment, a scientist generally employs, implicitly, the principle of causality and the realization that particular substances have characteristic activities. Such physical reasoning can be systematized in terms of principles which, in turn, admit of further conclusions not given by positive science. Accordingly, both a philosophy of nature and some sort of integrative view are in order.

The other extreme, which seems equally untenable, is the position that the philosophy of nature is a general science with physics, chemistry, and so on, as subordinate parts. If this were true, the principles on which these sciences are actually based would be derived from the general science of nature. They are not. The feeling that the science of the future must eventually return to its roost in the house of Aristotle has little to support it.

What does this limiting process leave? Two links and a suggestion. First, as Smith and Carlo have pointed out, the positive sciences treat the objects of nature under some specialized aspect. The philosophy of nature is integrative inasmuch as it treats these objects as unified wholes. Secondly, as indicated above, a methodological analysis of the procedures and reasoning actually used in setting up and interpreting experiments should reveal the principles implicitly presupposed. Finally, might it not be helpful to think of the philosophy of nature and the positive sciences in terms of complementarity rather than subalternation? There is a similarity between this relation and that obtaining between classical and quantum physics. The critical experiments on which quantum theory is based presuppose the validity of classical laws, while the experiments on which both systems are based presuppose the validity of the type of physical reasoning systematized in the philosophy of nature. Yet, in spite

of this interdependence, the complementary systems are formally distinct and each has its proper intelligibility.

JOHN A. OESTERLE, *University of Notre Dame*

Ethical Naturalism and the Modern World-View. **By E. M. Adams. Chapel Hill: Univ. of North Carolina Press, 1960. Pp. 229 + index. $6.00.**

In the opening chapter, Professor Adams distinguishes between morality, ethics, and philosophy of ethics. By "morality," he means an inquiry into a practical situation and the use of moral wisdom or precepts. "Ethics," in a broad sense, refers both to a common-sense moral knowledge and to the study that investigates such phenomena as the acts of persons and institutions in terms of an ethical conceptual scheme, with the emphasis on the latter reflective procedure. "Philosophy of ethics" is a study devoted to looking primarily into the use of moral language by an ethicist. It is the latter study which occupies almost entirely the attention of contemporary writers in the field. This book also is primarily a study in a philosophy of ethics in that the author thinks this is the approach to use, but he is interested in it principally as a means of getting at the ontological significance of moral language.

The aim of the author, so understood, is highly commendable. Most contemporary authors in the area of ethics are not so much ethicians as linguistic analysts of what they regard ethical statements to be; and while such investigations have a certain semantic as well as epistemological value, they do not seem to offer much advance for ethics in the customary meaning of the term—in "ethics" as Professor Adams understands the term. Although he is principally concerned to engage contemporary writers on their own grounds—that is, in philosophy of ethics—the commendable feature of the book is that he is really interested in ethics and in many respects is singularly successful in stating what such a study of ethics ought to be.

Perhaps further comment is in order about the distinctions Professor Adams makes with respect to morality, ethics, and philosophy of ethics. The distinctions do help to clarify matters and to indicate that most current writing in the moral field is almost entirely in philosophy of ethics. Therein lies, as I have already suggested, the chief difficulty with most of the contemporary literature in moral philosophy. If moral philosophy, or ethics in the traditional sense of the term, is basically a practical science, ordered ultimately to action even though having a theoretical dimension, the present extensive concern with a linguistic analysis of ethical statements

remains on the periphery of moral knowledge. Moral philosophy, again in a traditional sense that goes back to Aristotle, is not an examination about how to talk about moral phenomena but how to know about it in order finally to act. And although I think that basically this is the position of Professor Adams as well, nevertheless I think that Stuart Hampshire, whom Adams quotes, is more to the point in saying that the "type of analysis which consists in defining, or finding synonyms for the moral terms of a particular language cannot illumine the nature of moral decisions or practical problems; it is no more than local dictionary-making, or the elimination of redundant terms, which is useful only as preliminary to the study of typical moral arguments."

I suspect that Professor Adams is much closer to the position of Hampshire than perhaps he realizes. In any event, Adams goes on to give a thorough, and often penetrating, analysis of ethical naturalism (the position that ethical sentences have cognitive meaning and truth-values but are translatable into the language of science), of emotive naturalism (the position that ethical sentences are not cognitively meaningful but are expressions of likes and dislikes), and of logical naturalism (the position that ethical statements are meaningful, though not true or false, but justifiable or not in terms of good reasons or the lack of them). Adams rejects all three variants of ethical naturalism, although he began this present work, he points out, with the confidence that some version of ethical naturalism was correct.

Consequently, he espouses "non-naturalism" in ethics, a position in opposition to all three forms of ethical naturalism described above. In response to the criticism leveled against nonnaturalism, that we cannot locate in experience what is meant by value language, Adams holds that the meaning of such language can be located in the semantic content of affective-conative experiences. Moreover, Adams argues, through the value-experience which underlies moral knowledge, we can attain a categorial feature of reality which he calls "value-requiredness," and it is just this feature of reality which is not taken into account by modern scientific thought.

The final chapter, "Metaphysical Implications," is an attempt to consider the implications of the position taken by the author in relation to the modern naturalistic world-view. Such terms as "value," "change," and "causality" are historically reviewed and analytically treated.. The gist of the argument is to show why and how some teleological framework must be accepted. Free will is finally discussed (throughout the book no clear distinction is made between sense desire, emotion, and intellectual desire, will, with the consequence that free will is brought in belatedly and only in the context of a metaphysical problem). The last chapter is somewhat unsuccessful, partly because it tries to cover too much in too brief a

manner, and partly because some of the "metaphysical implications" belong properly to moral philosophy itself.

Nonetheless the book, taken as a whole, is a welcome return to treating moral knowledge primarily on its own grounds without, on the one hand, getting lost in purely semantic problems or, on the other hand, reducing moral philosophy to metaphysics. It offers a challenge to the current tendency to turn moral philosophy into a purely speculative and purely logically-oriented discipline; at the same time it is an important contribution to the traditional understanding of ethics as valid practical philosophy.

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John Dewey: His Thought and Influence. **Ed. John Blewett, S.J. New York: Fordham Univ. Press, 1960. Pp. xiv + 242. $5.00.**

Constituting almost the sole contribution by American Catholics to the centennial of Dewey's birth, this volume is not to be regarded lightly. It contains eight separate essays: James Collins has an essay on the genesis of Dewey's naturalism; John Blewett, S.J., on Dewey's conception of philosophy as a way of life; Beatrice Zedler on his theory of knowledge; Sister Joseph Mary Raby, S.S.J., on his meaning of progressive education; John W. Donahue, S.J., on the problem of technology in Dewey; Thomas P. Neill on his ambivalent attitude toward history; Robert Pollock on his concept of experience within American pragmatism; and Thomas Berry, C.P., on Dewey's influence in China. There is a short chronological and bibliographical note.

Just as these essays are on diverse topics, so also do they possess diverse values. While unquestionably a new high has been reached in our objective evaluation of Dewey compared with much of the past commentary that has been directed toward him, yet one senses in some of these essays that not all is sweetness and light. The choice of topics, for example, is not balanced. The most obvious deficiency is the lack of an essay on some ethical positions of Dewey; perhaps there should have been an examination of his concept of responsibility. Neill's evaluation of Dewey's position on history is unfortunate. Were Neill to have recognized, as Luigi Sturzo has said, that historical consciousness takes shape only after there is a social consciousness, then Neill would have concerned himself with the underpinnings of Dewey's social consciousness. If one is to evaluate a thinker it must be on his terms, not your own.

Of course not all the essays are of the type of Neill's. Collins has done a fine job on Dewey's development of naturalism. One can only hope

that he later extends this treatment to include Dewey's *Experience and Nature* since this work marks the final position in the attempt to locate experience within nature. Donahue's examination of Dewey's position on technology is well done and sympathetic. He recognizes the limitations of a naturalism but suggests how these can be overcome by a higher synthesis. It is Donahue, however, that points to a gap in these essays; there is no critique of *Art As Experience*. If there is to be a balancing of perspective one cannot ignore artistic experience and its functioning within ordinary experience, at least within Dewey's framework. While my competency to judge Berry's essay on Dewey's influence within China is limited, there is one question which the author seems not to raise. It is suggested that pragmatism was not adequate to the task because it was not a satisfactory alternative to the Chinese humanism which had shaped the culture for centuries. Yet what is never asked is whether or not pragmatism functions properly only within a Christian historical context. This is more than an interesting question.

The essay that gives evidence of greatest technical competence and deepest understanding of Dewey's thought is the one by Pollock. Paraphrasing Justice Holmes's comment, one can say of Pollock's essay: "Thus, methought, Dewey would have spoken had he clearly recognized his own roots within the entire Christian tradition." The task in understanding Dewey is to see him against the entire historical framework of Christian thought; and this is what Pollock does. Perhaps, had this essay been distributed to some of the other authors before they wrote, the entire volume would have been better. The essays on the theories of knowledge and education could not stand as they now do. Pollock's analysis of process and experience suggests that Dewey may have hit upon something which opens up man to a fuller and deeper awareness of his rooting within society and history.

This is an important book. Father Blewett, the editor, is to be commended. This book should be followed by others of the same type, for if there is any challenge that American Catholic philosophers face it is that of being truly American. We must face up to the American experience. Not that experience that Catholics have undergone in becoming socialized—for we are just becoming aware of the imbalancing this has caused—but that authentic experience that arises out of the relationship of the person to the American socio-cultural structure.

An Apostle of Freedom: The Life and Teachings of Nicolas Berdyaev. **By Michel Alexander Vallon. New York: Philosophical Lib., 1960. Pp. 370. $6.00.**

This doctoral dissertation is a sympathetic analysis of the life and ideas of Berdyaev. The work is divided into two parts. The first part shows the development of Berdyaev's ideas in the course of his life, the second presents these ideas in an analytical form. The story of Berdyaev's life and intellectual growth is well presented: it shows how the unattached aristocratic child grew into the adolescent radical, the radical into the messianic Marxist, the Marxist into an idealist, the idealist into a rationalistic, neo-Platonic Christian. Certain characteristics are seen to remain throughout: a feeling of alienation in the world, a love of freedom, an appreciation of mysticism.

The second part analysizes the thought of Berdyaev. It begins with his notion of the first principle, which is seen to have similarities to that of Boehme (and through him, to the neo-Platonic strain in Western "mystical" writings.) Berdyaev rejects cosmological and metaphysical interpretations: he prefers to see in the relation of God and the world a personal relation of God and the Other which is a highly personal version of the negative theology. Next comes the notion of man as a free person. The defense of the absolute value of the unique human person is rightly seen as the permanent value of Berdyaev's work. Berdyaev's religious views, though expressed in terms of feeling and suprarational intuition, seem to be much more truly a rationalism which tried to include the Trinity and the Redemption into a deductive scheme (though Berdyaev thought he was being an anti-rationalist).

This study is a valuable one, and should be found in every library. The bibliography is a great help in identifying the different translations and editions of Berdyaev's works.

Beyond Matter and Mind. Natural Sciences Synthesized into Philosophy. **By Albert Bachem. New York: Vantage Press, 1960. Pp. 182. $3.50.**

The late Albert Bachem was a professor of biophysics, and this work is an attempt to unite psychology and physics. The author's philosophy is an explicitly atheistic monism, which is intended to be neither spiritualistic nor materialistic. The monism is achieved by a phenomenalist-epistemological technique: matter is an integration of experience neglecting some aspects and emphasizing others; mind is a different integration emphasizing other aspects.

The first part of the book is closer to the author's speciality. He shows

the physiological role of consciousness and centers his discussion of his matter-mind monism around Fechner's and Müller's laws. Sandwiched in this discussion is an attack on teleology. He begins by criticizing dualism. He then attempts to synthesize through relativity and quantum theory. He has a chapter on religion, which is a flat rejection. This is followed by a chapter on ethics and aesthetics, in which he replaces "happiness" by "health." There is a summary as a last chapter.

Christian Yoga. **By J.-M. Dechanet, O.S.B. Trans. Roland Hindmarsh. New York: Harper & Bros., 1960. Pp. 196. $3.75.**

The purpose of this book is to show that Yoga techniques can be of use in Christian asceticism. The book is divided into two parts. In the first part, the author gives an account, partly historical and partly analytical, of Hindu yoga and the great yogis. The second part tries to set out doctrinally and practically a system of yoga that can be used by a Christian.

The theoretical background of the author is a kind of Augustinianism; he himself refers to William of St. Thierry and his three-fold division of man into body, soul, and spirit, which the author puts into Jungian terms as *anima*, *animus*, and *spiritus*. He argues that the primary purpose of asceticism is to restore harmony within man, and that to this end force and violence are much less effective than gentle but firm direction. The exercises are considered to be expressions of attitudes, and the causality between them is thought to be reciprocal.

A Concise Dictionary of Existentialism. **By Ralph B. Winn. New York: Philosophical Lib., 1960. Pp. 122. $3.75.**

This "dictionary" consists of explanatory and elucidative passages taken from the writings of Simone de Beauvoir, Martin Heidegger, Soren Kierkegaard, Karl Jaspers, Gabriel Marcel, and Jean-Paul Sartre. For a casual reader who wants to know what existentialists have said about a given topic in their own words, this is a very convenient source. It could also be used by someone who wished to have handy quotations. For the most part, the texts are well chosen.

The Discovery of God. **By Henri De Lubac, S.J. Trans. Alexander Dru. New York: P. J. Kenedy & Sons, 1960. Pp. 212. $3.95.**

This is a translation of *Sur les chemins de Dieu* (1956), which was almost entirely a new work, based upon the older *De la connaissance de Dieu* (1945, 1948). The translation does not contain all of the footnote material of the French original. On the whole, it is excellent, being careful, accurate, and idiomatic; some rather difficult passages, especially in Chapter Two, are difficult already in the original.

As those who are acquainted with the French original know, the work is not a complete treatise of natural theology, nor is it written in a continuous expository style. The author insists that his intention was to supplement the formal treatises with a series of reflections—often rather

brief and loosely connected—on those problems of natural theology with which many thoughtful people today find particular difficulty.

The work deals successively with the origin of the idea of God, our affirmation of His existence, the proof of God and the sort of knowledge that it culminates in, the limitations of this knowledge, the need for a continual search for God, and the place of God in the outlook of modern man.

***Education in a Free Society*, Vol. II. "Pitcairn-Crabbe Foundation Lecture, Series 2." Pittsburgh: Univ. of Pittsburgh Press, 1960. Pp. 62. $3.00.**

This volume contains the text of three lectures: "Quantity and Quality in Higher Education," by Henry Steele Commager; "The Liberating Arts," by Robert W. McEwen; and "What Is Education For?" by Brand Blanshard. The first lecture draws on historical background to point out the problems of the present and future: increased enrollments, lack of faculty, needed support, new intellectual frontiers. The second lecture suggests that the liberating arts can be quite different in different cultures and that their role should perhaps be reduced. The third professedly examines the ends of education. Professor Blanshard puts it thus: "the aim of a liberal education is to produce reasonable minds. . . . The end of education is reasonableness" (p. 41). Reasonableness concerns beliefs, attitudes, and actions. The habit of being reasonable in belief involves a measured skepticism, reflective thinking, the ability to reason impersonally, without passion. Reasonableness in attitude is feeling, emotion, suited and proportioned to its object. Reasonable action is responsible action. In all these points Professor Blanshard suggests that this ideal is unpopular, and he says quite explicitly that it is not new. But he says it well and forcefully, in brief compass. The essay deserves to be read widely.

***Elements of Christian Philosophy*. By Etienne Gilson. Garden City, N.Y.: Doubleday & Co., 1960. Pp. 358. $5.50.**

This volume is intended by the publishers to be a basic or introductory text for a new series of textbooks in philosophy. As its title indicates, it is an exposition of what the author believes are the most fundamental and pervasive themes of the philosophy of St. Thomas Aquinas.

The book is divided into four parts. The first part considers the relation between revelation and the Christian teacher: what Christian truth is, how St. Thomas viewed his role as a teacher of that truth, the relation of philosophy to "the philosopher" as St. Thomas saw them, and the relation of both to "sacred doctrine." This section summarizes and puts very cogently the author's notion of Christian philosophy.

The second part deals with God. After considering our knowledge of the existence of God, the author discusses in turn the "five ways" of St. Thomas and follows this section with a chapter on metaphysical approaches to the knowledge of God. In this chapter there is a very significant treatment of "being and existence," in which the distinctively

Thomistic notion of the act of being is derived from the notion of creation. The last chapter of this section deals with the essence of God.

The third part deals with being. Here the author takes up God and the transcendentals, as divine names and as attributes of being. The section concludes with chapters on creation and causality.

The fourth part deals with man. Here we find St. Thomas's notion of the human soul, the nature of knowledge and of will, and the relation of man to society.

The extensive footnotes are at the end of the text (pp. 291-338); there are also a selective bibliography, an index of names, and a subject index.

Every student of St. Thomas—teacher and graduate student as well as beginner—will profit a great deal from this book.

Ethics. A Critical Introduction. **By A. Campbell Garnett. New York: Ronald Press, 1960. Pp. viii + 526. $5.50.**

This book is concerned with what the author calls "ethical criticism" rather than with particular moral questions or problems. Speaking broadly, the approach is historical, though the work is in no sense intended to be a history of ethics. The book consists of three parts. The first part is a sketch of the history of morals, stressing two notable stages: the moral ideas of primitive man and the contributions of the great religions. The second part is the critique of ethical concepts. The introductory chapter of this part deals with philosophical criticism, especially in its beginnings. Successive chapters take up egoism, the pursuit of happiness, the intuition of duty, self-realization, the definability of ethical terms, emotivism, and a summary analysis and conclusions. In this, the major section, the author uses his historical approach to its best advantage, presenting the various views according to their most effective proponents. As he goes along, he analyzes and criticizes and so gradually develops his own theory. As he himself says, the theory that finally emerges can be called a kind of natural law theory (pp. 379-80). The third part consists of readings from a wide selection of authors, under more particular, though still quite inclusive, headings: the nature of the ideal life, authority and liberty, property, war, and marriage and the family.

This is a stimulating and serious book, that demands to be taken seriously by philosophers. Even those who do not agree with the author at every point will find much to think about—perhaps they will find more than a reader who passively accepts what he reads.

Existentialism and Indian Thought. **By K. Guru Dutt. New York: Philosophical Lib., 1960. Pp. 92. $2.75.**

The author begins this comparison with a historical and descriptive sketch of existentialism. As precursors, Pascal, Maine de Biran, Kant, Fichte, Coleridge, Schelling receive brief treatment. Kierkegaard and Nietzsche are presented in greater detail as the sources of the movement. Jaspers (introduced through Dilthey), Heidegger, Sartre, and Marcel are treated as the outstanding representatives of contemporary existentialism.

Occasionally, in explaining these ideas, the author inserts an Indian term, to indicate where points of comparison will occur. The remainder of the book is a comparison of existentialism with Indian thought. The distrust of reason, the subjective turning inward, and the notion of authentic being are seen as points held in common. But then the author goes on to show that in his opinion there is a radical difference; only Marcel is judged to have gone deeper, and this is because he accepts the Christian myth! But not even Marcel has managed to succeed, for he maintains a dualism to the end. Indian thought, by rising to nondualism, surmounts the anguish and the care in the calm of total identity. It seems to be a characteristic of Hindu syncretism to assimilate even radically different philosophies without abandoning the original positions at all.

Francisco Romero on Problems of Philosophy. **By Marjorie S. Harris. New York: Philosophical Lib., 1960. Pp. x + 115. $3.75.**

Romero is one of the more important philosophers in Argentina and has been prominent both in writing and in university life. The present book is intended to give a general view of his thought. Romero has tried to arouse interest in philosophy in South America, for he felt that the positivism dominant there for so long had unduly restricted both the interest in philosophy and the contribution which serious study of philosophy might make to that culture.

Romero is difficult to classify; he seems close to French spiritualism, but is more realistic and experiential. He thinks that philosophy is primarily concerned with the discovery and analysis of problems rather than with the a-priori announcement of theses. He criticizes the Cartesian method for aiming too exclusively at clarity and for being too immanent. On the contrary, he believes that man, even at the lowest stage of his development, is characterized by intentionality, by an attitude he takes toward objects. This is minimal, or natural, man. But man can arise to a spiritual level, and by this Romero means a disinterested knowledge and love. Intentionality already transcends the physical level, but complete transcendence is reached only in spiritual activity. And only spiritual activity makes a man a person. Personality is reached in self-transcending knowledge, but most specially in self-transcending moral activity.

The present study of Romero is valuable because there is so little written in English about South American thought and culture.

Hegel. Highlights: An Annotated Selection. **By Wanda Orynski. New York: Philosophical Lib., 1960. Pp. xxi + 361. $4.75.**

This book is intended to serve as an introduction to the thought of Hegel and to view it in relation to the modern world. The book is essentially a digest with generous quotations. The structure of the present book follows the three major divisions: the phenomenology of mind, the science of logic, and the philosophy of history. In the first part, all major points are given in Hegel's own words, with the author supplying connections, summarizing intervening passages, and relating the ideas to

modern times. The science of logic is digested with no quotations and in a systematic way; it is the shortest of the three parts in the present volume. The third part again uses quite a bit of direct quotation, but here is also a generous amount of interpretation.

The book may make it possible for students to gain an over-all acquaintance with Hegel, where they would find a mere history of philosophy too brief, and Hegel's works in their entirely too extensive.

Language, Truth and Poetry. **By Victor M. Hamm. "Aquinas Lecture," 1960. Milwaukee: Marquette Univ. Press, 1960. Pp. 74. $2.50.**

The author begins by considering two extreme contemporary views about poetry: that of the positivists, who dismiss it as nonsense or at best as emotive utterance; and that of the mythologists, who would have it create objects of belief. These presentations are followed by brief but pertinent criticisms. He then proposes his own version of the realist view, that poetry is both a kind of knowledge and a creative expression of it in language. As knowledge, poetry is knowledge of the universal *in* the particular, in sensuous imagery, in which the imagery itself and its expression in language are partly controlling factors. As expression, it is art in the Aristotelian sense, a rational and imaginational skill in the production of the poem itself. This is an excellent discussion of the nature and function of poetry, by a man who is responsive to contemporary needs and movements of thought.

Modern Materialism. **By Charles S. Seely. New York: Philosophical Lib., 1960. Pp. 83. $2.50.**

This book is in favor of peace, progress, and human welfare; what connection there is between the author's fine intentions and the content of the book remains obscure. The author asserts that modern science is necessarily materialistic, that materialism is the source of all progress, and that it is the only hope of the future. The reason is that matter is prior to mind; mind depends on matter; everything changes. So we must be natural, progressive, kind to the poor and ignorant. In other words, we should practice all the Christian virtues because matter is the only reality.

Natural Law Reader, The. **Ed. Brendan F. Brown. New York: Oceana Pubns., 1960. Pp. x + 229. $3.50; paper, $1.35.**

The readings included in this volume are divided into three parts. The first part is entitled "The Revival of Natural Law Jurisprudence," the second, "Scholastic Natural Law Jurisprudence," and the third, "Non-Scholastic Natural Law Jurisprudence." The selections vary in length from a short paragraph to a dozen pages and range in time from Plato to contemporaries, among whom selections from the editor's own writings are prominent.

The choice of selections in an anthology of this sort can always be questioned, and it is sufficient if the selections are representative and good.

The production, however, is technically inadequate. The editor's introductions are not easily distinguished from the selections; footnotes are very hard to identify; subheads are sometimes larger than main headings; parallel headings are of different sizes; the table of contents is not informative, and there is no subject index.

The Nature of Science. **By David Greenwood. New York: Philosophical Lib., 1960. Pp. xiii + 95. $3.75.**

This little volume consists of five stimulating essays, all dealing with the theory of science. In the first, title essay, the author distinguishes the formal from the factual sciences and then shows the close dependence of the latter on the former. He also discusses very carefully the logic of induction. The second essay deals with concept formation and operational definition; it shows the real but limited validity of operationism and points out that operational analysis is possible of concepts which are only implicitly operational but cannot handle the explicit concepts of operations themselves. The third essay deals with quantitative inductive procedures and points out that these procedures are very important, even though they have been somewhat neglected by logicians. The fourth essay is on causality and the counterfactual conditional; causality is here taken as universal antecedence and consequence; the author however strongly criticizes Hume's analysis, since under his suppositions the only connection we could find would be one between "impressions." In the last essay, the problem of real numbers is discussed; the question is about the proper meaning of the terms "real" and "rational" numbers.

Though the title seems to promise more than the book provides, the analyses are careful, significant, and often indicate fruitful lines for further investigation.

Philosophy of Judaism. **By Joshua Adler. New York: Philosophical Lib., 1960. Pp. 160. $3.00.**

This is the author's attempt to present the cultural meaning of Judaism as he understands it. In his first two chapters he speaks of the world of nature and the special characteristic of man, creativity, which he thinks pertains only to the intellectual and ethical realms. There is not much that is distinctive here, except a rejection of evolutionism on the ground of the conservation of energy. The third chapter is an explanation of the doctrine of creation. The author firmly believes that the Bible is a revealed book and that it teaches the creation of the world, in the strict sense of the term creation. He thinks that in the first moment of creation, a material principle was produced and also a kind of "Universal," which was a spiritual principle. He holds that from these two principles the rest of the world was produced and that only man has both of these principles within him. In the fourth chapter he gives his understanding of the exile in Egypt. The fifth is his justification of the negative precepts of the law about the use of food and other material things; this justification is in terms of man's need to restrain his desires. The next chapter is the

explanation of the Sabbath rest, whose purpose, he maintains, is not mere avoidance of activity but is rather orientated to bring out the idea of dedication to God. The seventh chapter explains the notion of sacrifice as a symbol, and the eighth the meaning of the term "the chosen people."

That this is a complete account of Judaism could hardly be maintained since there is no mention of prophecy; the author seems to have aimed rather at giving the universally valid essentials of the Jewish religion. Apart from his view that the Bible is revealed (a position which is barely explained and for which he adduces no evidence), he seems to take rationalistic interpretations, as is especially evident in his argument against the "Fall." In addition the book is not well organized; the style is awkward, so much so that some sentences are almost unintelligible. There is no index.

Scientific Basis for World Civilization. **By Leo J. Baranski. Boston: Christopher Pub. House, 1960. Pp. 653. $7.50.**

In his preface, the author tells us that he had a great deal of difficulty getting this book published, and even getting it read; now that the book has been published it seems quite likely that it will still not be widely read. There is a vast amount of erudition, a twenty-page bibliography, a very detailed index.

The basic viewpoint is that of general semantics; the notion of unifying all knowledge into one science through unitary field theory was first expressed in writing by L. L. Whyte. But the author allows free play to emotional argument. Most of his psychological and social (ethical) theory and conclusions are proposed with rhetoric and sweeping generalizations. The scientific character of these statements is constantly asserted, the unscientific nature of philosophy and religion is asserted almost as often. And, as usual in general proposals of this kind, the social scientist is to be given the most extensive powers of control that make the fearsome prophecies of Huxley and Orwell seem only half-hearted tyranny.

The Search for Values. **By Russell Coleburt. New York: Sheed & Ward, 1960. Pp. 135. $3.00.**

This book is written for the general reader and is intended to point out the absence of real values in much of modern life, the dislocation and disturbance which this lack has brought about. It is also intended to help the reader understand what value is and how to find it. The author is at his best in showing what the loss of values has led to and how a complete subjectivization of them is an equivalent of loss. On the other hand, his references to the difference between science and philosophy, and his attempt to answer Hume's question about the derivation of an "ought" from an "is" by asserting that we *do* experience obligation, indicate a weakness in epistemology. Yet the book is a good one to recommend to someone who wants an easily readable discussion of value and its objectivity, or to a beginning student in ethics who has no grasp of the problems which face many men today.

Sociology of Religion. **By Georg Simmel. Trans. Curt Rosenthal. Introd. by Feliks Gross. New York: Philosophical Lib., 1960. Pp. x + 76. $3.75.**

Simmel is one of the classical writers of sociology, and the present work (first published in 1905) is one of the earliest to consider religion as a phenomenon. Contemporary sociologists follow an altogether different method—they are concerned with factual relations—yet perhaps they also have unexpressed a-priori theories about religion. Simmel, in contrast, carries on a highly a-priori analysis of the function of religion in a society. In many ways this analysis is similar to the Kantian analysis of knowledge. It is thus a sort of philosophical sociology. Though the work is quite difficult, a study of it might well clarify the thinking of more empirically minded investigators.

The translation is good, though it bears the marks of the extremely involved style of the original.

A Study of Hebrew Thought. **By Claude Tresmontant. Trans. Michael Francis Gibson. New York: Desclée Co., 1960. Pp. xx + 178. $3.75.**

The author intends to set out the essential elements "of the metaphysical system implicitly present in the Bible" and from this basis "to contribute towards a definition of the requirements and essence of Christian philosophy," as well as to show the relationship of biblical thought to Greek philosophy and Gnosticism (p. xx). This is a very ambitious undertaking.

The author begins with the idea of creation. In treating this point, he shows that creation is incompatible with neo-Platonism, with pantheism, or with a Manichaean dual first principle. Next he takes up the notion of time, which the author believes fundamental to the Hebrew conception of the created world. In treating this concept, he makes considerable use of Bergson's analyses of time. Here there are some dubious interpretations: the author tells us that with a true notion of time as becoming we cannot view reality as composed of things; he also holds that the Greek view of time either considered it an illusion or as a degradation of being. He also maintains that the biblical conception of time implies liberty. In treating of matter and the sensible, the author rightly insists that there is no contempt of sensible things in the Bible, but rather even a love of them (in relation to God, of course). He further insists that there is no dualism and draws the strange conclusion that the Hebrews could not think of matter or body because they were not dualists.

The second part is supposed to present the biblical anthropology. Again the author attacks dualism. Though he admits that there is a way of distinguishing between body and soul that does not imply dualism, he soon seems to forget his concession. He insists that "body" and "soul" are aspects that can be used indifferently to designate man. It is one thing to assert that Hebrew thought is pre-analytic, another to imply that analysis necessarily distorts reality. The author maintains that there is a distinction between the body-soul unit and "spirit," and tells us that "spirit"

always means the supernatural. It is very doubtful whether all the passages the author adduces can or should be interpreted in this way.

The third part deals with understanding. Here there is a good discussion of the biblical meaning of the term "heart"; this is not an original view of the author's but it is good to have it in an easily accessible form. In the fourth chapter of this part, the author makes explicit his opposition to all "Greek" forms of thought, which he says are opposed to biblical metaphysics and anthropology—though modern science and philosophy are not.

This book makes a brave attempt to do something very important, but it is not the final word. A better knowledge of the history of philosophy will be required in the man who accomplishes this aim.

Tolstoy. **By Theodore Redpath. New York: Hillary House, 1960. Pp. 126. $2.00.**

This study of Tolstoy deals only briefly and in passing with his life and supposes at least some acquaintance with his major novels. The first aspect considered is that of the ideas of Tolstoy: on religion as dogma-less and "pure" Christianity; on anarchy as the social and political expression of the pure religion; on science as being largely a waste of time, selfishness, or pride; on art as communication of feeling; on woman as degraded; and on virginity as the ideal of all men. Each exposition is followed by a criticism; the exposition is generally fair, though sometimes it seems to be sharpened; the criticism is acute, sometimes appreciative, even when the author disagrees. The second aspect is that of Tolstoy's art as a novelist, and this is well handled. A third chapter deals with formative forces and tries to show how Tolstoy came to his ideas on private property as wrong, on pacificism, and on anarchy. These treatments are followed by a conclusion and several bibliographies.

This is a good introduction, though the author seems to be somewhat hard on Tolstoy.

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